

RICE UNIVERSITY

**Assessing the Usability of the Straight-Party Voting Ballot Option for Paper,  
Punch Card, and Electronic Voting Systems**


by

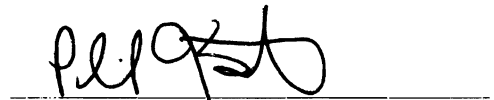
**Bryan Alexander Campbell**

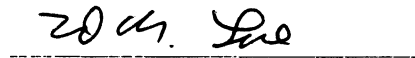
A THESIS SUBMITTED  
IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE

**Master of Arts**

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MAY 2011

## ABSTRACT

### Assessing the Usability of the Straight-Party Voting Ballot Option for Paper, Punch Card, and Electronic Voting Systems

by

Bryan A. Campbell

The straight-party voting ballot option (SPVBO) is a voting provision available to a sizable minority of United States voters—approximately 71 million voters across 16 U.S. states. In recent years, researchers have begun to doubt the efficacy of the SPVBO while current research on the usability of the SPVBO is largely anecdotal with little empirical support. From a usability perspective, the SPVBO should be a means of increasing both voting efficiency and voting effectiveness via a reduction in the overall number of task elements require to complete a ballot. An empirical mock election research experiment was conducted to test the usability of the SPVBO using realistic voting equipment and procedures. Results from this experiment suggest that using the SPVBO may have little impact on voting system efficiency or satisfaction and that, in certain circumstances, using the SPVBO may have profound negative effects on voting error rates.

## Acknowledgements

This thesis is dedicated first and foremost to my family and friends; all of whom who never cease to amaze me with their support and encouragement. I would also like to dedicate this thesis to my advisor, Dr. Michael D. Byrne, who never hesitates to challenge me when I need it the most. Finally, I also owe a debt of gratitude to my remaining committee members, Dr. Philip Kortum and Dr. David M. Lane, for committing their time and support to my work, and to my research assistant, Adam Purtee, for putting in countless hours helping me in the voting lab.

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## ACRONYMS

DRE — Direct recording electronic

DV — Dependent variable

IV — Independent variable

SPV — Straight-party voting

SPVBO — Straight-party voting ballot option

STV — Straight-ticket voting

## INTRODUCTION

During the 2008 United States presidential election, approximately 71 million potential voters, or 31% of the United States' then voting-age population, resided in one of the 15 U.S. states that allowed voters to make a single-selection straight-party vote (United States Census Bureau, 2008). Thus, the straight-party voting ballot option (SPVBO) is available to sizable minority of United States voters. As a ballot option, straight-party voting (SPV), also known as straight-ticket voting (STV), is a provision that gives voters the ability to vote for all of the same-party candidates by making a single ballot selection. Generally speaking, a straight-party voting ballot selection can be made in lieu of the several individual selections that would be required should a voter desire to vote for all the candidates from one political party. Currently, 16 U.S. states (Alabama, Indiana, Iowa, Kentucky, Michigan, New Jersey<sup>1</sup>, New Mexico, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Texas, Utah, West Virginia, and Wisconsin) allow their voters the option of making a single-selection straight party vote (National Conference of State Legislatures, 2008). In principle, the SPVBO relieves voters from the burden of having to make several individual selections whenever their intention is to vote a straight-ticket.

Despite the large number of voters who have access to this ballot provision, some researchers have expressed concern about the efficacy of the SPVBO. In one example, Darcy and Schneider (1989) describe a scenario in which straight party voting was believed to actually contribute to voter confusion. According to the authors, in the 1986

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<sup>1</sup> New Jersey only allows straight party voting in primaries (National Conference of State Legislatures, 2008).

general election in Oklahoma, 74 of Oklahoma's 77 counties used traditional paper ballots while only three used newer optically scanned paper ballots. According to the authors, the abstention rates for the 1986 U.S. Senate race in Oklahoma for the three counties that used optically scanned paper ballots were 5.7%, 6.2%, and 10% as compared to 3.1% across the remaining 74 counties that used traditional paper ballots. The authors hypothesized that the optically scanned ballot designs were more confusing and potentially intimidating to voters, noting that, among other deficiencies, the SPVBO, available at the top of the optical ballots, did not include the U.S. Senate race, which was found at the bottom of the ballot, nor any of the other races found on the reverse side of the ballot (which also had substantially higher abstention rates).

In another example, Nichols (1998) quotes a county official in Kentucky who noted that voters appeared to presume that no further action was required once a straight-party voting selection had been made. Such an observation has serious implications for any remaining non-partisan races or ballot referenda. These contests are not, by definition, included in a straight-party vote and would presumably not be voted for if a voter held the belief that following a straight-party voting selection, no further action was required.

There is also more direct evidence that the SPVBO may be problematic. Neimi and Herrnson (2003) describe how the SPVBO is implemented on the North Carolina ballot. In North Carolina, voting for all the candidates of one political party, via selection of the SPVBO, actually requires more than one voting selection. The presidential race is not included when a SPVBO selection is made. As a result, this ballot design necessitates

additional SPV instructions that are completely separate from the primary SPV instructions. It is likely that this ballot configuration is responsible for North Carolina's traditionally large abstention rate in the presidential race.

In North Carolina, 42,950 (nearly 1% of NC's ballots cast) did *not* cast a vote in the 2008 presidential race. The margin of victory in the 2008 presidential race in North Carolina was only 14,177 votes (North Carolina State Board of Elections, 2010).

However, a 1% non-vote rate in the presidential race actually represents an improvement for North Carolina. During the 2008 campaign season, there were extensive efforts made to educate North Carolina voters about the peculiar implementation of the SPVBO there. The abstention rate in the presidential race in North Carolina for the 2000 and 2004 presidential elections was 3.41% and 1.86% respectively (Moore, 2008). An example of NC's ballot configuration can be seen in Figure 1. Neimi and Herrnson (2003) advocate both uniformity and clarity in SPV instruction sets and recommend against SPV configurations such as that used in North Carolina.

While these anecdotes highlight specific examples of election phenomena where the SPVBO is thought to be problematic, unfortunately, little is understood about the usability of the SPVBO in isolation and therefore, extraneous factors cannot be ruled out.

PRESIDENTIAL CONTEST	STRAIGHT PARTY VOTING	
<p>The offices of President and Vice President of the United States are not included in a Straight Party vote. These offices must be voted separately.</p>	<p>a. A Straight Party vote is a vote for all candidates of that party in partisan offices. Individual partisan office selections are not necessary if you select a Straight Party below.</p> <p>b. You may select a Straight Party AND ALSO vote for a candidate of a different party in any individual office.</p> <p>c. In any multi-seat race, a Straight Party vote is a vote for ALL candidates of that party. If you individually vote for any candidate in a multi-seat race, you must also individually select all other candidates in that race for whom you wish to vote in order for your vote to count.</p> <p>d. If you do not select a Straight Party below, you may vote by marking each office separately.</p> <p>e. A Straight Party vote does not vote for US President and Vice President, unaffiliated candidates, or nonpartisan offices or issues.</p>	
<b>PRESIDENT AND VICE PRESIDENT OF THE UNITED STATES</b> (You may vote for ONE)		
<div style="display: flex; align-items: center; margin-bottom: 10px;"> <input style="margin-right: 10px;" type="radio"/> <div> <b>Barack Obama</b>  <b>Joe Biden</b>  <small>DEMOCRAT</small> </div> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <input style="margin-right: 10px;" type="radio"/> <div> <b>John McCain</b>  <b>Sarah Palin</b>  <small>REPUBLICAN</small> </div> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <input style="margin-right: 10px;" type="radio"/> <div> <b>Bob Barr</b>  <b>Wayne A. Root</b>  <small>LIBERTARIAN</small> </div> </div> <div style="display: flex; align-items: center;"> <input style="margin-right: 10px;" type="radio"/> <div>Write-in _____</div> </div>		
(a)	(b)	(c)

*Figure 1.* Straight party voting instructions seen on North Carolina's 2008 sample ballot. On the original sample ballot (a), (b), and (c) appear in the same left-most column where (a) is positioned directly above (b) and (b) is positioned directly above (c).

For example, in the case of the Oklahoma optically scanned ballots (Darcy & Schneider, 1989), it is not clear whether poor ballot design or the SPVBO was more to blame. In Nichols' (1998), the extent of the county official's election observation experience is unknown and, additionally, not voting in one or more races is a right of American voters. In North Carolina (Neimi & Herrnson, 2003), the peculiar implementation of the straight-party voting ballot is strongly implicated, nevertheless, direct causality can not be assigned to the SPVBO alone. It is possible that the placement of instructions both before and after the presidential race are to blame. Voters may have mistaken the presidential race for more instruction (e.g., an exemplar race).

The usability of the straight-party voting option can be best understood in the context of general voting system usability. Voting system usability is a critical aspect of

overall election integrity. The highly publicized “butterfly ballot” used in Palm Beach County, FL during the 2000 United States presidential election is a vivid example of the degree to which usability flaws can affect election outcomes. Though well known, the “butterfly ballot” is just one of many examples, at both the national and local levels, of usability flaws that have been connected to election outcomes. Norden, Kimball, Quesenbery, and Chen (2008), discuss several instances of usability oversights that are believed to have swayed election outcomes. For example, as Norden et al. (2008) describe, in Los Angeles County, California, during the 1976 general election the ballot was designed such that race headings between the presidential and senatorial races were drastically inconsistent. The race headings for the presidential race were located atop the listing of presidential candidates whereas race headings for the senatorial race were located along the lefthand side of the race. While causality cannot be inferred, there were over 400,000 lost votes in the senatorial race that year yet the margin of victory in the senatorial race was just shy of 250,000 votes (Norden, et al., 2008).

In another, more recent, example Norden, et al. (2008) describe what happened in Sarasota County, Florida during the 2006 general election. In this election, Sarasota County designed the ballot such that the 13th congressional district race shared a screen with the race for governor. The congressional race, featuring less than half the candidates than that of the race for governor, was placed directly above the race for governor. Once again, there were over 18,000 lost votes for the congressional race and the margin of victory in the congressional race was a mere 269 votes (Norden, et al., 2008).

To date, security concerns have been at the forefront of voting system research; and for good reason. Ensuring election integrity requires considerations of voting system security, as insecure voting systems are vulnerable to those with malicious intentions. However, substantially greater amounts of time and resources have been spent on examining the intricacies of voting system security, particularly for electronic voting systems, than have been spent examining voting system usability concerns. This is particularly bewildering in light of the fact that there has been no conclusive evidence that any major election has been stolen electronically. Yet, it has been shown that usability issues have almost certainly played a role in many election outcomes (e.g., Mebane, 2004; Norden, et al., 2008) including the 2000 U.S. Presidential election (Wand, Shotts, Sekhon, Mebane, Herron, & Brady, 2001).

Usability, in the context of voting technology, can be defined as the degree to which a voting system is efficient, effective, and provides a satisfactory voting experience (Laskowski, Autry, Cugini, Killam, & Yen, 2004). These metrics were adopted from International Organization for Standardization's (ISO) general usability standard (ISO 9241-11, 1998). The usability of the SPVBO, then, can be defined as the degree to which its use affects the efficiency, effectiveness, or satisfaction of a particular voting system. From this perspective, a heuristic evaluation would seem to indicate that the SPVBO appears to be a means of increasing voting efficiency; several redundant selections are replaced by a single selection. Furthermore, the SPVBO inherently carries the potential to decrease the likelihood of voting errors by reducing the overall number of selections required to complete a ballot; thereby reducing the number of opportunities for



voting errors. However, the reverse is also true. An unintended or mis-selected straight-party voting selection could potentially generate several voting errors all at once.

It is not unreasonable to be concerned about a mis-selected SPV selection. Voting errors of this kind have been shown to be rather frequent in laboratory studies of voting behavior. Previous research has demonstrated that mistakenly selecting an unintended choice (a.k.a. a wrong choice error) is the most common type of voting error (Everett, Greene, Byrne, Wallach, Derr, Sandler, & Torous, 2008; Campbell & Byrne, 2009a; Greene, 2008; Piner & Byrne, 2010). However, wrong choice voting errors generally go unnoticed outside of the laboratory as, in the United States, there is no way to definitively know that they occurred (voting privacy ensures this). To date, efficacy assessments of voting technology are generally made using the residual vote rate, post-election. A residual vote is the difference between the number of valid ballots (or votes) received and the number of people who showed up to vote. Residual votes are typically measured by ballot or by contest. For example, a vote for the President of the United States might result in a residual vote for that contest if a voter selected more than one candidate in that race. The consequence of this would be a spoiled contest resulting in an incremental increase in the residual vote for that contest. However tabulated (by contest or by ballot), the residual vote rate inherently includes intentional abstentions (non-error abstentions) and does not include wrong choice errors (selecting an unintended choice by mistake). On the other hand, the true error rate takes both into account. In the aggregate this may not be problematic. The erroneously increased error reporting by the inclusion of intentional abstentions may be offset by the erroneously decreased error reporting of

wrong choice errors (Campbell & Byrne, 2009a). It is unclear, however, if wrong choice SPV selections would alter this relationship.

In addition to the potential increase in error rates due to wrong choice SPV selections, recent research has suggested that it is likely that the SPVBO is outright confusing to voters. What would make straight party voting confusing? The absence of state-to-state standardization may play a role. Byrne, Greene, and Everett, (2007) note that laws governing SPV tend to vary a great deal from state to state in the U.S. That is, the straight party voting provision works somewhat differently depending on where it is implemented. It is possible that some voters experience confusion when moving to a state with straight party voting procedures that are different from procedures they are accustomed to. In addition, those voters inexperienced with SPV moving from a state that does not offer SPVBO to one that does may also experience confusion.

It is also possible that instructional quality is a source of confusion. Redish (2005) observed large disparities in instructional quality across voting technologies from a sample of real, in-use, ballot designs. When examining the SPVBO, Redish (2005) questioned the comprehensibility of multiple SPV instruction sets. In 2006, Redish published a set of 20 guidelines designed to assist in the creation of on-ballot instructions. While none of the guidelines directly address the issue of SPV, Redish (2006) identified straight-ticket voting (a synonym for SPV) as voting jargon and suggested there was a need for additional research to determine if voters even knew the meaning of the phrase. An example of SPV instructions laden with voting jargon can be seen in the 2008 Wisconsin sample ballot (Figure 2).

STRAIGHT PARTY	
If you desire to vote a straight party ticket for all federal, legislative, state and county offices, complete the arrow to the <b>RIGHT</b> of the party of your choice. A straight party vote cannot be cast for Independent candidates. To vote for individual candidates of your choice, complete the arrow to the <b>RIGHT</b> of the name.	
DEMOCRATIC	← <input type="checkbox"/>
REPUBLICAN	← <input type="checkbox"/>
WISCONSIN GREEN	← <input type="checkbox"/>
LIBERTARIAN	← <input type="checkbox"/>

Figure 2. The straight-party voting instructions seen on Wisconsin's 2008 sample ballot.

## Straight Party Vote

Vote for not more than one.

You may choose to vote a straight-party ticket or vote each partisan contest.

(a)

## Straight Party Voting

You can vote all at once for all the candidates of one political party for all the races where the candidates belong to a specific party. (This is called a straight-party ticket.)

If you want most candidates from one party but some candidates from another party, you can vote straight party here and change your vote later at a specific race.

To vote straight party, touch the party name and touch **Next**.

To not vote straight party, just touch **Next**.

(b)

Figure 3. Standard (a) and plain language (b) straight-party voting instructions used in Redish et al., (2008).

With these instructions, the differentiation between “federal”, “legislative”, “state”, and “county” level contests may not be immediately clear to voters. Furthermore, these instructions do not explain the difference between the Independent candidates and the individual candidates they reference (the former being of, presumably, Independent political affiliation).

The examples above suggest that the SPVBO may be confusing; however, there has been little systematic research investigating the legitimacy of this notion. While not their primary objective, in 2008, Redish, Chisnell, Newby, Laskowski, and Lowry published a user study that, in part, investigated SPV confusion. The primary objective of the Redish et al. (2008) study was the comparison of a typical ballot to one using a plain language instruction design. Nevertheless, Redish et al. (2008) did include and instruct subjects to use a SPVBO in both a standard (Figure 3a) and plain language (Figure 3b) form. Their comparison yielded unexpected results. Plain language (i.e., exceptionally clear) SPVBO instructions helped, but not to a very large extent. Acknowledging their SPVBO instructions could have been plainer and even more clear (and providing examples of how this might be done), the authors recommend the removal of straight-party voting ballot provisions.

There is also additional evidence supporting the idea that instructional quality may affect the SPVBO. In a web-based survey on SPV, Campbell and Byrne (2009b) sought to describe the mental model voters generate when confronted with the option to use a SPVBO. The web-based survey consisted of four different sample ballots used in the 2008 U.S. presidential election. These ballots were presented to subjects one at a time, in a fixed order, and increased in instructional quality as subjects progressed through the

survey. With each ballot seen, subjects were asked two scenario-based questions and two list completion questions. The scenarios put before subjects were of two types: a SPV with cross-votes scenario and a SPV without cross-votes scenario. In the SPV with cross-votes scenario, subjects were told the SPVBO had been selected and, in one particular race, a cross-vote had been made. A cross-vote is a vote that is in contradiction to the SPV selection. For example, if the SPV selection for Democratic candidates has been selected and a subsequent selection for a Republican candidate has also been made, then the Republican selection would be a cross-vote. In the SPV without cross-vote scenario, only a SPV selection had been made. The objective in these scenarios was to determine who, from a given list of candidates, would ultimately receive a vote based on the scenario and ballot being viewed at the time. In both list completion questions, subjects were given a list of ballot-specific partisan candidates and asked what on the ballot they would select to satisfy the list.

Results from Campbell and Byrne (2009b) showed that in the SPV with cross-vote scenario subjects overwhelmingly responded as if cross-votes would be overridden by SPV. This would actually be an incorrect belief in response to the ballots presented to those subjects; in a real election using those ballots, the reverse would have happened. The effect, however, was mediated by instructional quality. As instructional quality increased the margin of incorrect to correct responses was reduced until it was finally reversed with highest quality instruction set. Despite this mediation, however, there were still quite a large number of incorrect responses in both the SPV with and without cross-vote scenarios. These results partially support Redish et al. (2008). The data in Campbell and Byrne (2009b) showed that increased instructional quality helps, but not so much as

to conclude that it is the primary of voter confusion. The list completion scenarios allowed Campbell and Byrne (2009b) to assess SPV usage. Again, instructional quality appeared to be a moderator. As instructional quality increased so too did the use of the straight party voting provision. Additionally, Campbell and Byrne (2009b) had subjects respond openly to a question asking how they believed straight party voting should actually work. A majority of subjects indicated that they believed that cross-voting should override a straight-party vote. These were responses that contradicted how many of the same subjects indicated SPV would actually interact with a cross-vote.

The results from Campbell and Byrne (2009b) suggest that straight party voting may be intrinsically confusing. However, the data they presented was qualified by a number of methodological limitations, most notably the lack of counterbalancing in ballot and instructional presentations. Redish et al. (2008) was also not without its limitations, namely a limited sample size and unrealistic ballot. Despite these limitations, Campbell and Byrne (2009b) and Redish et al. (2008) appear to support each other. Taken together, both studies appear to suggest that SPV is inherently confusing. Nevertheless, neither offer enlightenment concerning the underlying problem. In this respect, it is difficult to make definitive claims based on only a few, relatively recent results. It does appear, though, that straight party voting may be confusing and it is possible that poor instructional quality exacerbates this confusion.

There are other concerns surrounding the SPVBO as well. Generally speaking, making a straight-party vote and also making an individual partisan selection are not mutually exclusive actions; both are possible on the same ballot. For example, consider the case where a straight-party vote is made and one or more additional cross-votes are

made. This may happen when a voter desires to vote primarily for one political party yet also desires to vote for one or more candidates of an opposing political party. The result in this example would be a ballot with apparently conflicting selections (the straight-party selection and any cross-votes). It would be easy to see how a voter in this example might become confused by the ambiguity of the situation. Additionally, contests that allow votes for more than one candidate at a time may complicate the situation even more.

Furthermore, complex action sequences performed on direct recording electronic (DRE) voting systems may introduce additional ambiguity. Consider the case where a voter using a DRE makes a SPV selection, then a cross-vote (or any number of other selections), and then decides to change the straight party vote (e.g., by recognition of an error or a change of heart). On a paper ballot, this scenario would most likely result in the voter obtaining a new ballot and beginning the voting process over. However, on a DRE, this action sequence can be accomplished with relative ease and without the need for a new ballot. In this scenario, the final tally-state of the ballot may be ambiguous to some voters.

In summary, SPV and the SPVBO represent a particularly understudied area of voting system usability. Although a SPVBO is not available for a majority of United States voters, it still remains an influential aspect of the voting process; millions of voters reside in those states that do offer a SPVBO. While literature regarding the efficacy of SPVBOs is generally negative, it is also largely anecdotal. Empirical research is needed to establish a foundation for these claims. The research presented below is an attempt to address this void in the literature.

## STUDY METHOD

### Subjects

One hundred sixty-two subjects (83 female) participated in this research. Subjects were required to be 18 years of age or older (i.e., age-eligible to vote in the U.S.), and native English speakers in order to participate. Recruitment of subjects took place via online and local print advertising. Despite the eligibility requirements, four subjects reported English was not their native language. Upon completion of the study each subject was paid \$25 for their time regardless of their voting performance.

Subjects ranged in age from 18 to 83 years old with a mean age of 39.6 years old ( $SD = 15.1$  years). As a group, subjects were fairly experienced voters having voted in a mean 6.34 ( $SD = 9.88$ ) previous national elections and a mean 4.02 ( $SD = 7.98$ ) previous non-national elections (e.g., school board, city council, etc.). Additionally, subjects were fairly experienced computer users. On a 10-point scale (0 = *novice* and 10 = *expert*), the mean level of self-rated computer expertise was 6.78 ( $SD = 2.35$ ) with 42 subjects reporting 0 to 20 hours of computer use per week, 53 reporting 20 to 40 hours of computer use per week, and 29 reporting over 40 hours of computer use per week (one subject did not report their computer use). All but 9 subjects self-reported having normal or corrected to normal vision and all but 7 self-reported not having a reading disability. Additional subject demographics describing education, ethnicity, and income are reported in Appendix A.



## **Procedure**

Upon arrival, subjects were greeted and given an informed consent form. Subjects were then given a set of study instructions that described the study procedure and what was expected of them (see Appendix B). Following the study instructions, subjects were given either a voter guide or a slate of candidates to vote for. Once subjects had a chance to read, understand, and ask questions about all the materials provided to that point, subjects were directed to a voting station. Subjects then voted on two separate voting systems. Directly following each individual voting system's use, subjects were given a SUS questionnaire (Brooke, 1996) and asked to reflect on the voting system they had just used. After voting was complete, subjects who had been given a voter guide were also given a verbal exit interview to determine for whom they had intended to vote. Following the interviews, subjects were then given a demographic and voting experience questionnaire to complete. Finally, upon completion of the study, subjects were debriefed and paid for their time.

## **Materials**

**Voting Technologies.** Three voting systems were used in this study. The first voting system was a Flash-based implementation of the Java-based VoteBox DRE (Sandler, Derr, & Wallach, 2008; Sandler & Wallach, 2008) (Figure 4) called Flash VoteBox (Figure 5). Flash VoteBox looks, feels, and operates almost identically to the original Java-based VoteBox. The advantages of using Flash VoteBox were two-fold: Flash VoteBox incorporated a simplified code base (which made modifications easier) and provided additional usability testing functionality (such as detailed voter navigation

records). With both versions of VoteBox, subjects used a mouse to navigate sequentially through an on-screen ballot. No keyboard input was required to operate Flash VoteBox as subjects indicated their voting selections via mouse clicks.

The second voting system, bubble-style paper ballots (Figure 6), shared many characteristics with the forms used in traditional standardized testing. Small ovals to the left of the intended selection are filled in using a No. 2 pencil to indicate the intended selection (see Appendix C for a complete bubble-style paper ballot). In real elections, completed bubble-style paper ballots are generally fed through an optical scan tabulator. In this study, the bubble-style paper ballots were counted by hand.

The third voting system, punch card machines, were VotoMatic III punch card stations (Figure 7) purchased at auction from Brazoria County, TX. To vote on a VotoMatic III punch card machine, rectangular strips of card stock (“punch cards”; Figure 8) are fed into the top of the voting machine. Voters turn a number of pages and use a metal stylus to punch through perforated holes in the punch card corresponding to their intended selections. As with the bubble-style paper ballots, completed punch card ballots are generally counted by an electronic tabulator in real elections, however, in this study they were counted by hand.

STEP 1  
Read Instructions

You are now on:

STEP 2  
Make Your Choices

STEP 3  
Review Your Choices

STEP 4  
Record Your Vote

President and Vice President of the United States

To make your choice, click on the candidate's name or on the box next to his/her name. A green checkmark will appear next to your choice. If you want to change your choice, just click on a different candidate or box.

President and Vice President of the United States	
<i>(You may vote for one)</i>	
<input type="checkbox"/> Gordon Bearce Nathan Maclean	REP
<input checked="" type="checkbox"/> Vernon Stanley Albury Richard Rigby	DEM
<input type="checkbox"/> Janette Froman Chris Aponte	LIB

Click to go back to Step 1: Read instructions

Click to go forward to next contest

← Previous Page

Next Page →

Figure 4. Java VoteBox screen capture.

STEP 1  
Read Instructions

You are now on:

STEP 2  
Make Your Choices

STEP 3  
Review Your Choices

STEP 4  
Record Your Vote

President and Vice President

To make your choice, click on the candidate's name or on the box next to his/her name. A green checkmark will appear next to your choice. If you want to change your choice, just click on a different candidate or box.

President and Vice President	
<i>(You may vote for one)</i>	
<input type="checkbox"/> Gordon Bearce Nathan Maclean	REP
<input checked="" type="checkbox"/> Vernon Stanley Albury Richard Rigby	DEM
<input type="checkbox"/> Janette Froman Chris Aponte	LIB

Click to go back to Step 1: Read Instructions

Click to go forward to next contest

<- Previous Page

Next Page ->

Figure 5. Flash VoteBox screen capture.

GENERAL ELECTION BALLOT HARRIS COUNTY, TEXAS NOVEMBER 4, 2009		
<p>• <b>TO VOTE, COMPLETELY FILL IN THE OVAL ● NEXT TO YOUR CHOICE.</b></p> <p>• Use only the marking device provided or a number 2 pencil.</p> <p>• If you make a mistake, do not hesitate to ask for a new ballot. If you erase or make other marks, your vote may not count.</p>		
<b>STRAIGHT PARTY VOTING</b>	<b>STATE</b>	<b>COUNTY</b>
<input type="radio"/> Republican REP <input type="radio"/> Democratic DEM	<b>ATTORNEY GENERAL</b> (Vote for One)	<b>DISTRICT ATTORNEY</b> (Vote for One)
<b>PRESIDENT AND VICE PRESIDENT</b>	<input type="radio"/> Tim Speight REP <input type="radio"/> Rick Organ DEM	<input type="radio"/> Corey Behnke REP <input type="radio"/> Jennifer A. Lundeed DEM
<b>PRESIDENT AND VICE PRESIDENT</b> (Vote for One)	<b>COMPTROLLER OF PUBLIC ACCOUNTS</b> (Vote for One)	<b>COUNTY TREASURER</b> (Vote for One)
<input type="radio"/> Gordon Bearce REP Nathan Maclean <input type="radio"/> Vernon Stanley Albury DEM Richard Rigby <input type="radio"/> Janette Froman LIB Chris Aponte	<input type="radio"/> Therese Gustin IND <input type="radio"/> Greg Converse DEM	<input type="radio"/> Dean Caffee REP <input type="radio"/> Gordon Kallas DEM
<b>CONGRESSIONAL</b>	<b>COMMISSIONER OF GENERAL LAND OFFICE</b> (Vote for One)	<b>SHERIFF</b> (Vote for One)
<b>UNITED STATES SENATOR</b> (Vote for One)	<input type="radio"/> Sam Saddler REP <input type="radio"/> Elise Ellzey DEM	<input type="radio"/> Stanley Saari GP <input type="radio"/> Jason Valle LIB
<input type="radio"/> Cecile Cadieux REP <input type="radio"/> Fern Brzezinski DEM <input type="radio"/> Corey Dery IND	<b>COMMISSIONER OF AGRICULTURE</b> (Vote for One)	<b>COUNTY TAX ASSESSOR</b> (Vote for One)
<b>REPRESENTATIVE IN CONGRESS</b> (Vote for One)	<input type="radio"/> Polly Rylander REP <input type="radio"/> Roberto Aron DEM	<input type="radio"/> Howard Grady IND <input type="radio"/> Randy H. Clemons CON
	<b>RAILROAD COMMISSIONER</b> (Vote for One)	<b>NONPARTISAN</b>
<input type="radio"/> Pedro Brouse REP <input type="radio"/> Robert Mettler DEM	<input type="radio"/> Jillian Balas REP <input type="radio"/> Zachary Minick DEM	<b>JUSTICE OF THE PEACE</b> (Vote for One)
		<input type="radio"/> Deborah Kamps <input type="radio"/> Clyde Gayton Jr.

Figure 6. Paper-style bubble ballot. Only the top two-thirds of the front of the ballot is shown.



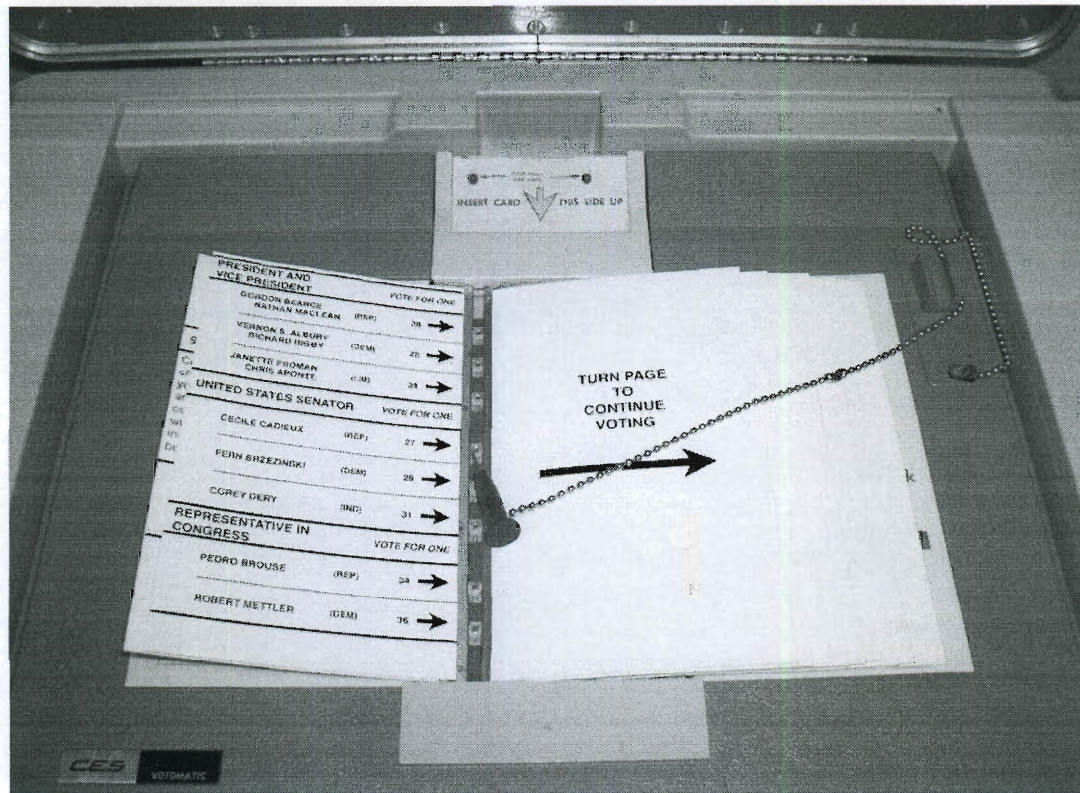


Figure 7. VotoMatic III punch card voting system.

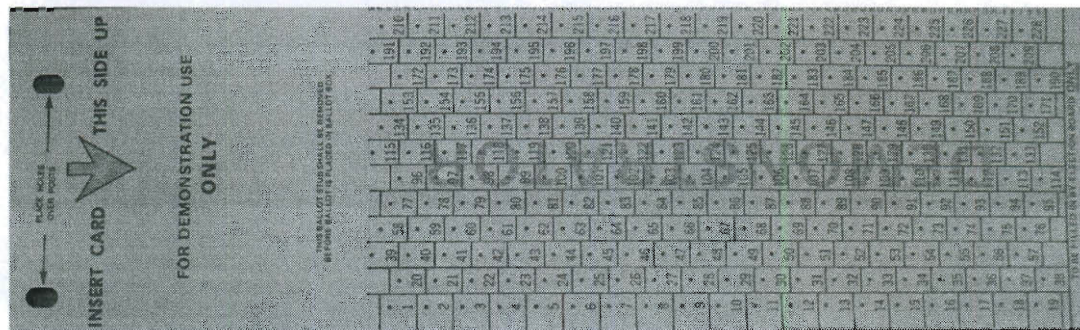
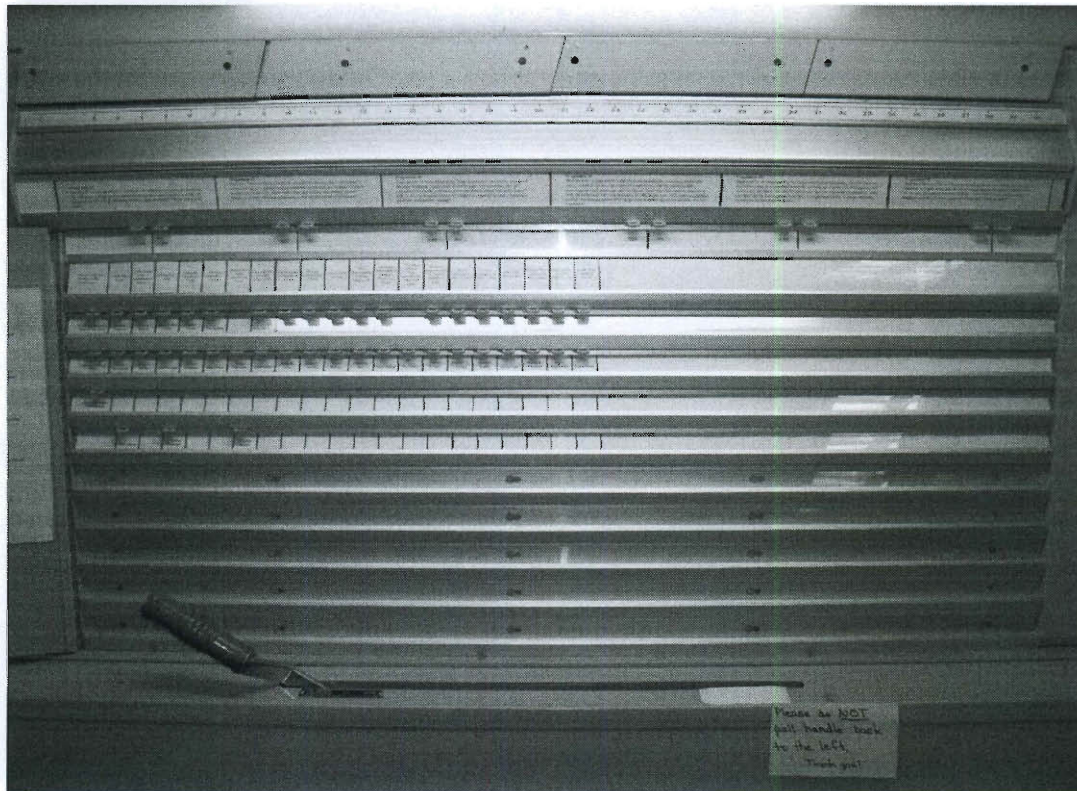


Figure 8. VotoMatic III punch card.

Lever machines (Figure 9), used in prior research (Campbell & Byrne, 2009a; Everett, 2007; Everett et al., 2008; Goggin, 2008; Greene, 2008), were not used in this study. In addition to the general usability comparisons between voting technologies, the main objective of this research is to advance a better understanding of the SPVBO.



According to Election Data Services (Brace, 2008), a national clearing house for information regarding nationwide voting system use, as of the 2008 Presidential election, lever machines were not in use, in any significant capacity, in any of the U.S. states that allowed the use of a SPVBO. Using lever machines in this study would have only served to complicate the research design while not contributing any substantial usability insight above and beyond that found in the previously cited literature.



*Figure 9.* Automatic Lever Machine Company lever voting system.

**Ballots.** The ballots used in this study were adopted from the ballots used in previous mock election research (Campbell & Byrne, 2009a; Everett et al., 2008; Goggin, 2008; Greene, 2008). This ballot design features 21 single-selection partisan candidate

names, fictional candidate names, real party names, and 6 yes-no locally representative propositions. Fictional candidate names were used as a means to avoid recognition effects and have been shown to not affect voting performance (Greene, Byrne, & Everett, 2006). However, the ballot design did feature actual political party names (e.g., Democrat, Republican, and Independent) to preserve a degree of realism in light of conducting a mock election in a laboratory setting. Similarly, the six propositions available on the ballot used in this study were fictional yet representative of those seen in recent local area elections.

Although the ballot used in this study was adopted from the ballots used in the previously cited literature, two important changes were made to the ballot's design for use in this study. First, the ballot was altered to include a SPVBO that was implemented as consistently as possible between all three voting technologies. When using the DRE (Flash VoteBox), the SPVBO (Figure 10) was presented to subjects immediately after the initial instruction screen and before the first candidate screen. When subjects chose to utilize the SPVBO an additional confirmation screen (Figure 11) was presented immediately after the SPV selection screen. This SPV confirmation screen was used to confirm the SPV selection and also presented subjects with the choice to either navigate sequentially through the entire ballot or skip directly to the remaining nonpartisan contests.

Straight Party Voting	
STEP 1 Read Instructions	Voting for a party automatically marks all candidates of that party in contests where straight party voting is allowed.
You are now on: STEP 2 Make Your Choices	<input type="checkbox"/> Republican Party <input checked="" type="checkbox"/> Democratic Party
STEP 3 Review Your Choices	
STEP 4 Record Your Vote	<div>Click to go back to Step 1: Read Instructions</div> <div>Click to go forward to next screen</div> <div>&lt;- Previous Page</div> <div>Next Page -&gt;</div>

Figure 10. Flash VoteBox straight-party voting selection screen. Show is the zero SPV instruction condition.

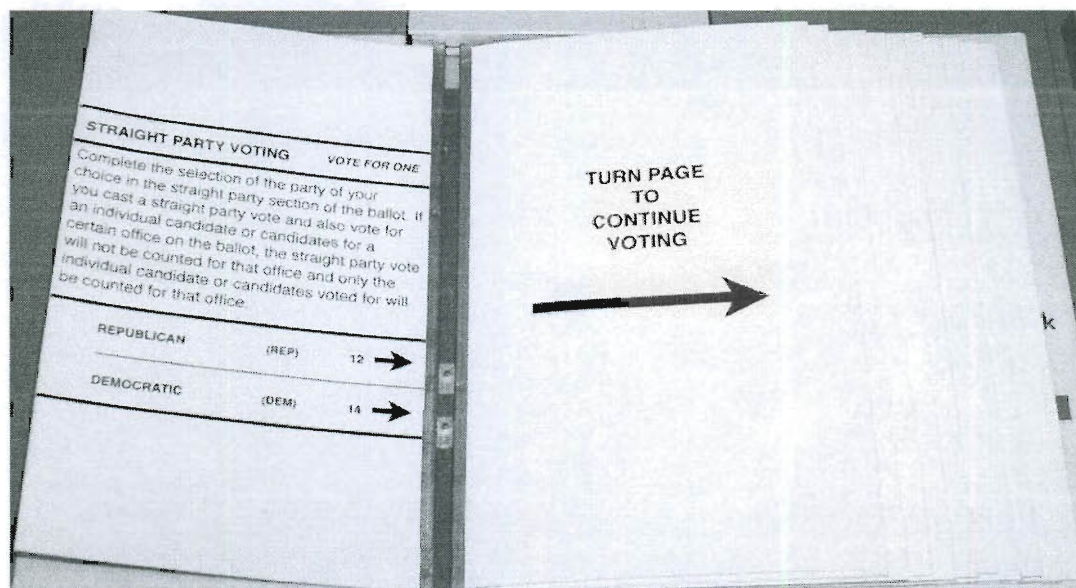
Straight Party Voting	
STEP 1 Read Instructions	You have chosen to vote for ALL the candidates of this party: <b>Democratic</b>
You are now on: STEP 2 Make Your Choices	<div>Select here to review or change partisan selections</div> <div>Select here to bypass partisan contests</div>
STEP 3 Review Your Choices	
STEP 4 Record Your Vote	<div>Click to go back to the previous screen</div> <div>&lt;- Previous Page</div>

Figure 11. Flash VoteBox straight party voting selection confirmation screen. This screen captures shows the zero straight-party voting instructions condition.



GENERAL ELECTION BALLOT HARRIS COUNTY, TEXAS NOVEMBER 4, 2009			
<p>• <b>TO VOTE, COMPLETELY FILL IN THE OVAL ● NEXT TO YOUR CHOICE.</b></p> <p>• Use only the marking device provided or a number 2 pencil.</p> <p>• If you make a mistake, do not hesitate to ask for a new ballot. If you erase or make other marks, your vote may not count.</p>			
STRAIGHT PARTY VOTING	STATE	COUNTY	
<p>You can vote all at once for all the candidates of one political party for all the races where the candidates belong to a specific party. (This is called a straight-party ticket.)</p> <p>If you want most candidates from one party but some candidates from another party, you can vote straight party here and change your vote later at a specific race.</p> <p>To vote straight party, fill in the oval next to the party name of your choice.</p> <p>To not vote straight party, do not fill in the oval next to either party's name.</p> <p><input type="radio"/> Republican REP</p> <p><input type="radio"/> Democratic DEM</p>	<p><b>ATTORNEY GENERAL</b> (Vote for One)</p> <p><input type="radio"/> Tim Speight REP</p> <p><input type="radio"/> Rick Organ DEM</p>	<p><b>DISTRICT ATTORNEY</b> (Vote for One)</p> <p><input type="radio"/> Corey Behnke REP</p> <p><input type="radio"/> Jennifer A. Lundeed DEM</p>	
	<p><b>COMPTROLLER OF PUBLIC ACCOUNTS</b> (Vote for One)</p> <p><input type="radio"/> Therese Gustin IND</p> <p><input type="radio"/> Greg Converse DEM</p>	<p><b>COUNTY TREASURER</b> (Vote for One)</p> <p><input type="radio"/> Dean Caffee REP</p> <p><input type="radio"/> Gordon Kallas DEM</p>	
	<p><b>COMMISSIONER OF GENERAL LAND OFFICE</b> (Vote for One)</p> <p><input type="radio"/> Sam Saddler REP</p> <p><input type="radio"/> Elise Ellzey DEM</p>	<p><b>SHERIFF</b> (Vote for One)</p> <p><input type="radio"/> Stanley Saari GP</p> <p><input type="radio"/> Jason Valle LIB</p>	
	<p><b>COMMISSIONER OF AGRICULTURE</b> (Vote for One)</p> <p><input type="radio"/> Polly Rylander REP</p> <p><input type="radio"/> Roberto Aron DEM</p>	<p><b>COUNTY TAX ASSESSOR</b> (Vote for One)</p> <p><input type="radio"/> Howard Grady IND</p> <p><input type="radio"/> Randy H. Clemons CON</p>	
	<p><b>RAILROAD COMMISSIONER</b> (Vote for One)</p> <p><input type="radio"/> Jillian Balas REP</p> <p><input type="radio"/> Zachary Minick DEM</p>	<p><b>NONPARTISAN</b></p>	
	<p><b>JUSTICE OF THE PEACE</b> (Vote for One)</p> <p><input type="radio"/> Deborah Kamps</p> <p><input type="radio"/> Clyde Gayton Jr.</p>		
	<p><b>PRESIDENT AND VICE PRESIDENT</b> (Vote for One)</p> <p><input type="radio"/> Gordon Bearce REP</p> <p><input type="radio"/> Nathan Maclean</p> <p><input type="radio"/> Vernon Stanley Albury DEM</p> <p><input type="radio"/> Richard Rigby</p> <p><input type="radio"/> Janette Froman LIB</p> <p><input type="radio"/> Chris Aponte</p>		

Figure 12. Bubble-style paper ballot featuring a SPVBO. This ballot shows the “Redish” straight-party voting instructions condition. Only the top two-thirds of the ballot is shown.



*Figure 13.* VotoMatic III punch card ballot featuring the SPVBO. This ballot shows the “Kentucky” straight party voting instructions condition.

When using the paper-style bubble ballot or the punch card machine, the SPVBO was presented in a consistent location above, or before, the presidential race. In the case of the paper-style bubble ballot the SPVBO (Figure 12) was always located at the top of the leftmost column and expanded downwards as the length of the straight party voting instructions increased. In the case of the punch card machine, the SPVBO (Figure 13) was always located by itself on the inside of the first page and, similar to the paper-style bubble ballots, expanded upwards as the length of the straight party voting instructions increased. The second important change to the ballot’s design involved the last four candidate races. The fourth- and third-to-last candidate races (races 18 and 19) remained partisan races, however, the party affiliations of the candidates in those races were changed to minor political parties (e.g., the Green Party). The last two candidate races

(races 20 and 21) were altered such that the party affiliations of the candidates were completely removed to create two nonpartisan races.

The alteration of the last four races was a significant change to the original ballot's design. However, throughout the United States voters regularly encounter ballots that feature candidates affiliated with minor political parties or races in which the candidates' party affiliation is unknown.

**Slates and Voter Guides.** Subjects in the directed condition were given one of two pre-generated slates (Appendix D). The first slate was a primarily Democratic slate featuring 14 Democratic and three Republican candidates out of 19 partisan races (i.e., 74% Democratic). The second slate was a primarily Republican slate featuring 14 Republican and three Democratic candidates out of 19 partisan races (i.e., 74% Republican). The candidates listed on each slate were randomly selected from all the available candidates (with the constraints listed above) and both slates were fully directed, meaning that both slates directed a vote for every contest on the ballot. Each slate also directed subjects to use the SPVBO and was listed on each slate in the same manner as the candidates were. By design, neither of the slates could be fully satisfied using the SPVBO alone. Both slates required subjects to make a straight party vote, three cross-votes, two minor party votes, and two nonpartisan votes to be fully satisfied.

Subjects in the undirected condition were given a voter guide (Appendix E) to read and were then allowed to vote for any candidate(s) they wished. The voter guides were modeled after the League of Women Voters document<sup>2</sup> (Everett, Byrne, & Greene,

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<sup>2</sup> For more information, see: <http://www.lwvhouston.org/index.html>

2006) and featured realistic candidate names, candidate backstories, and explanations of the ballot's propositions.

### **Design**

The research design in this study was mixed, including multiple between- and within-subjects independent variables (IVs). The IVs were: the voting systems subjects used, the non-DRE voting system subjects used, the set of SPVBO instructions subjects were given, the information condition subjects were assigned to, and the type of slate that subjects were given. The dependent variables (DVs) were: how effectively subjects completed their ballots, how efficiently subjects completed their ballots, and how satisfied subjects were with the voting technologies.

**Voting System (IV).** (2 levels, within-subjects). Subjects voted with the same ballot on two separate voting technologies. Subjects voted once on the Flash VoteBox DRE and once on a non-DRE voting technology. Voting system order was counterbalanced and subjects were instructed to vote exactly the same way and to the best of their ability on both technologies.

**Non-DRE Technology (IV).** (2 levels, between-subjects). In addition to the DRE, subjects voted on one non-DRE technology. The available non-DRE technologies were the VotoMatic III punch card voting system and a bubble-style paper voting system. The non-DRE voting technology used was not fully crossed in this design, however, subjects were randomly assigned to a non-DRE technology.

**SPVBO Instructions (IV).** (4 levels, between-subjects). Displayed on each ballot above the SPVBO was one of four specific sets of instructions describing how the

SPVBO worked the ballot. Instruction sets were fully crossed in this design and subjects were randomly assigned to an instruction set. The available instruction sets were: (1) no instructions whatsoever, (2) instructions from Kentucky's 2008 presidential sample ballot, (3) instructions from Rhode Island's 2008 presidential sample ballot, or (4) the extended plain language straight party voting instructions found in Redish et al. (2008, p. 148).

In the first instruction condition, subjects were provided with zero on-ballot instructions regarding how to use the SPVBO. It was left up to individual subjects to determine how the SPVBO interacted with the ballot's candidates. In the second instruction condition, subjects were given on-ballot SPV instructions identical to Fayette County, Kentucky's 2008 sample ballot (Figure 14a). Interestingly, these instructions imply that there are races to which the SPVBO does not apply without offering any further explanation.



(a)

**3. To cast a straight party vote:**

Complete the arrow pointing to the party of your choice in the straight party section of the ballot. If you cast a straight party vote and also vote for an individual candidate or candidates for a certain office on the ballot, the straight party vote will not be counted for that office and only the individual candidate or candidates voted for will be counted for that office.

(b)

You can vote all at once for all the candidates of one political party for all the races where the candidates belong to a specific party. (This is called a straight-party ticket.)

If you want most candidates from one party but some candidates from another party, you can vote straight party here and change your vote later at a specific race.

To vote straight party, touch the party name and touch **Next**.

To not vote straight party, just touch **Next**.

(c)

*Figure 14.* SPVBO instruction sets as seen on (a) Alabama's 2008 sample ballot, (b) RI's 2008 sample ballot, and (c) Redish et al.'s (2008) plain language design.

In the third instruction condition, subjects were given on-ballot straight party voting instructions identical to the town of Bristol, Rhode Island's 2008 presidential sample ballot (Figure 14b). These instructions were identified by Campbell and Byrne (2009b) as thorough yet concise SPVBO instructions. In the fourth instruction condition, subjects were given the extended on-ballot plain language SPVBO instructions developed by Redish et al. (2008) (Figure 14c). These instructions were developed with the explicit intention of writing a set of thorough yet easy-to-understand SPVBO instructions.

**Information Condition (IV).** (2 levels, between-subjects). Subjects were randomly assigned to receive either a slate (i.e., a list) of candidates to vote for—the directed information condition—or they were given a voter guide (a document that describes the candidates) and allowed to vote for whomever they wished—the undirected

information condition. Information condition was fully crossed in this design and subjects were randomly assigned to an information condition.

**Slate Type (IV).** (2 levels, between-subjects). Subjects in the directed information condition were given a full slate of candidates to vote for (i.e., a piece of paper directing a vote in every contest), consisting of either 74% Democrat or 74% Republican candidates. Slate type was not fully crossed in this design though subjects were randomly assigned to a slate type.

**Race Type (IV).** (4 levels, within-subjects). On the ballot used in this experiment, subjects were exposed to four or five distinct race types—depending on which information they were in. The first race type, *standard races*, were partisan races in which at least one candidate’s political affiliation was Democratic or Republican. The second race type, *minor party races*, were partisan races in which no candidate’s political affiliation was Democratic or Republican. The third race type, were races with candidates for whom no political affiliation was displayed on the ballot. The fourth race type, *propositional races*, were races in which the content being voted on was a description of a proposed law. The final race type, *cross-vote races*, were races in which the to-be-voted for candidate was not consistent with the SPVBO selection. Table 1 describes how the five race types were organized on the ballot used in this experiment.



*Table 1.* Descriptions, frequencies, and race numbers as a function of information condition and slate type for the five race types found on the ballot used in this experiment.

Race Description	Race Type				
	Standard Races	Minor Party Races	Non-Partisan Races	Propositional Races	Cross-Vote Races
	Partisan races in which at least one candidate's political affiliation is Democratic or Republican.	Partisan races in which no candidate's political affiliation is Democratic or Republican.	Races with candidates for whom no political affiliation is displayed on the ballot.	Races in which the content being voted on is a description of a proposed law.	Races in which the to-be-voted for candidate is not consistent with the SPVBO selection.
<b>Undirected Information Condition</b>					
Frequency	17	2	2	6	N/A
Race Numbers	1-17	18-19	20-21	22-17	N/A
<b>Directed Information Condition—Democratic Slate</b>					
Frequency	14	2	2	6	3
Race Numbers	1-2; 4-10; 12-4; 16-17	18-19	20-21	22-17	3, 11, & 15
<b>Directed Information Condition—Republican Slate</b>					
Frequency	14	2	2	6	3
Race Numbers	1-4; 6; 8-13; 15-17	18-19	20-21	22-17	5, 7, 14

**Effectiveness (DV).** The measurement of effectiveness was accomplished through the examination of subjects' ballot errors tabulated by contest, by ballot, and by error type. In the directed information condition, errors were defined as deviations from the slate provided to the subjects. In the undirected condition, errors were defined using a majority rules procedure. Subjects in the undirected condition provided three sources of



voting intent: the exit interview, the first technology's ballot, and the second technology's ballot. Any ballot selection that did not match the other two was considered an error.

Additionally, four error types were defined. The first error type, *wrong choice errors*, were defined as making a selection other than the one intended. The second error type, *overvote errors*, were defined as making more than the allowed number of selections within a contest. It is important to note that the Flash VoteBox DRE, like most commercial DREs, did not allow this type of error. The third error type, *undervote errors* were defined as not voting in a contest when the intent was to do so. As a function of the full slate, in the directed condition any omission was an undervote error. In the undirected condition, a differentiation between intentional undervotes and undervote errors was made. Intentional undervotes are non-errors as voters can abstain from voting in any contest they wish. Finally, the fourth error type, *extra vote errors*, were defined as the opposite of undervote errors. When a vote was cast in a contest in which the intent was an omission, that action was considered an error. In the directed condition, as a function of the full slate, extra vote errors were not possible. Error type was included as a four-level within-subjects factor.

**Efficiency (DV).** The measurement of efficiency was accomplished through the recording of ballot completion times. Ballot completion times, for all voting technologies, were measured using a stopwatch beginning when subjects entered the voting booth and ending when subjects exited the voting booth.

**Satisfaction (DV).** Subjective user satisfaction was measured through the administration of the SUS (Brooke, 1996). The SUS is a 10-question usability assessment

using five-point scales. In order to capture subjects' immediate impressions, the SUS was administered directly following each use of the voting technologies.

## STUDY RESULTS

### Effectiveness

Sixteen subjects were excluded from these analyses. Ten subjects were removed because technical difficulties prevented valid DRE data from being obtained from their voting session. An additional six subjects were removed for having committed more than four errors (15% of the ballot) on *both* voting technologies thereby demonstrating a lack of understanding for, or an unwillingness to conform to, the experimental task(s). This method of identifying outliers has been used in previous voting related laboratory research (Campbell & Byrne, 2009a; Everett, 2007; Everett, et al., 2008; Greene, 2008).

**Overall Error Rates.** The distribution of error rates for both the DRE and non-DRE voting systems are shown in Figure 15. Across all three voting systems, subjects made an average of 1.9 ( $SD = 4.3$ ) errors per ballot—an overall mean error rate of 3.5%. Moreover, 57 ballots, out of 292 in all, (146 subjects each contributed two ballots) contained at least one voting error with 33 ballots containing at least 3 voting errors. Of the 57 ballots containing at least one voting error the average number of errors was 4.9 ( $SD = 5.8$ ).

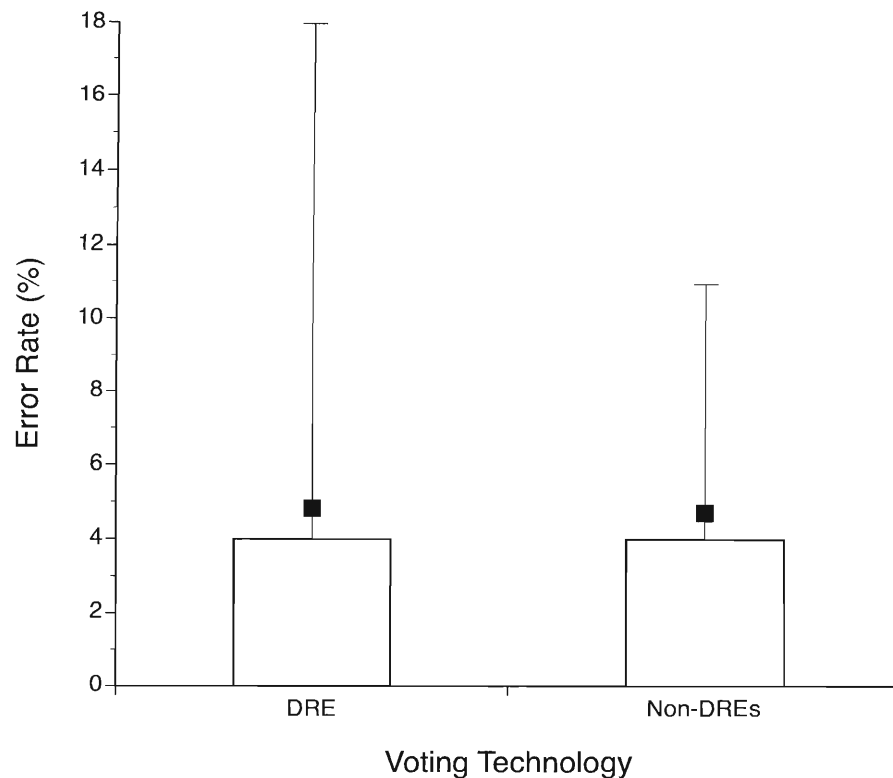


Figure 15. Box plot showing the distributions of error rates as a function of voting technology. Whiskers represent the 90<sup>th</sup> percentiles. Solid squares represent the means.

**Undirected Voting on the DRE.** Subjects in the undirected information condition voting on the DRE system made an average of 0.9 ( $SD = 3$ ) voting errors per ballot—a mean error rate of 3.3%—with 21 ballots containing at least one voting error. A 4 (Race Type) X 4 (Error Type) X 4 (SPVBO Instructions) X 2 (SPVBO Utilization) ANCOVA was used to analyze subjects' ballot data and the covariate, subjects' age, was not a statistically reliable predictor of error rates.

Subjects who voted using the SPVBO were nearly 13 times as likely to commit a voting error in one of the minor party races than subjects who did not vote using the SVPBO. As shown in Figure 16, the average error rate for the minor party races was

0.3% for those subjects who did not use the SPVBO and 3.8% for those who did. Error rates for the remaining race types were generally equivalent for between subjects who did and did not use the SPVBO. The interaction between race type and SPVBO utilization was statistically reliable,  $F(1.3, 79.5) = 6.07, p = .01$  and a post-hoc interaction contrast confirmed that the difference in mean error rates between users of the SPVBO and non-users was greater for the minor party races ( $M_{\text{diff}} = 3.5\%$ ) than for the non-partisan races ( $M_{\text{diff}} = 0.5\%$ ), propositional races ( $M_{\text{diff}} = 0.7\%$ ), or the standard races ( $M_{\text{diff}} = 0.3\%$ ),  $F(1, 69) = 6.46, p = .01$ .

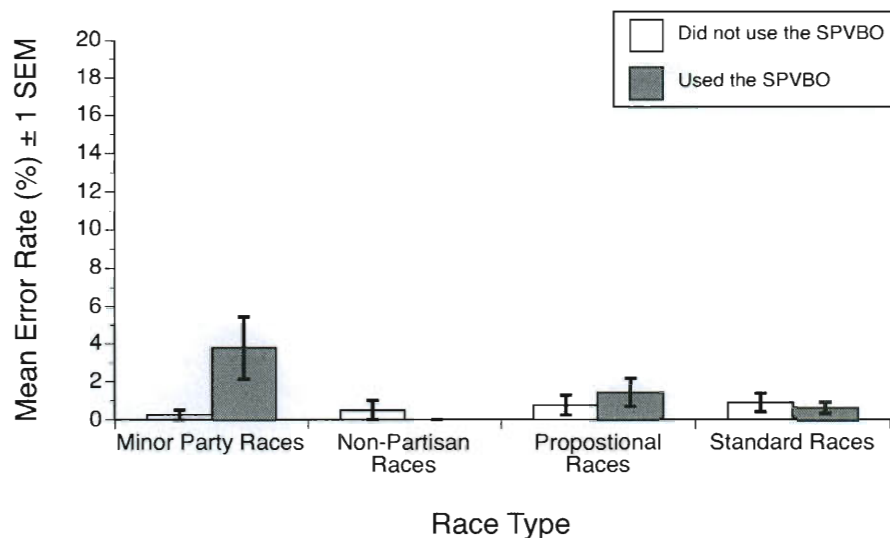


Figure 16. Mean error rate as a function of race type and SPVBO usage.

The substantial increase in the error rate for the minor party races due to using the SPVBO was almost entirely a result of the profound increase in the undervote error rate for those races. Shown in Figure 17a, undervote error rates for the non-partisan, propositional, and standard races were very low (around 1% or less). For the minor party races, however, voters who used the SPVBO errantly abstained from voting nearly 13%

of the time whereas subjects who did not use the SPVBO never errantly abstained in those races. On the other hand wrong choice error rates were generally similar for all race type between subjects who did (1% to 3.1%) and did not (0% to 4.4%) use the SPVBO (Figure 17b). The three-way interaction between race type, error type, and SPVBO utilization was statistically reliable,  $F(2.4, 150.4) = 4.73, p = .03$ ; however, post-hoc interaction contrasts did not provide sufficient statistical evidence to make any further conclusions.

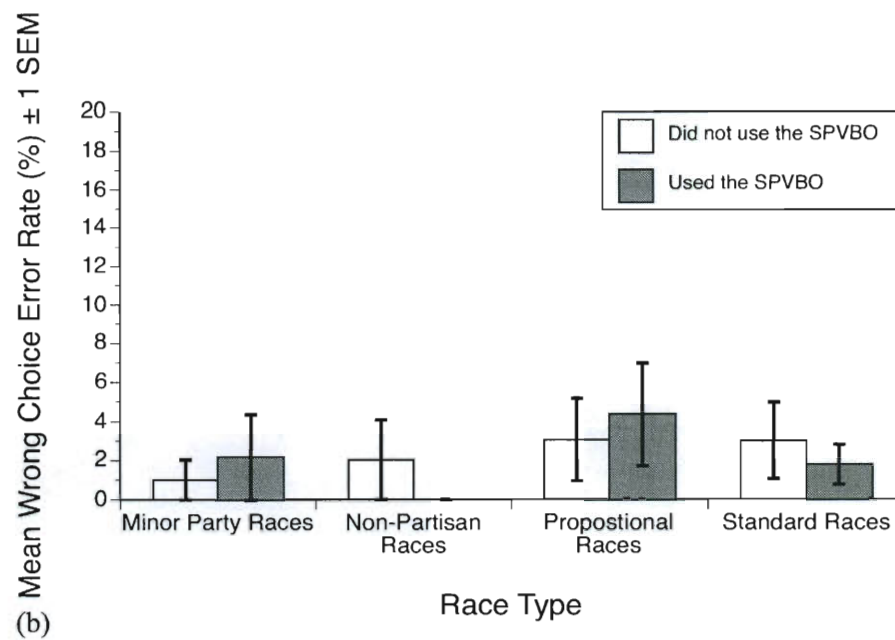
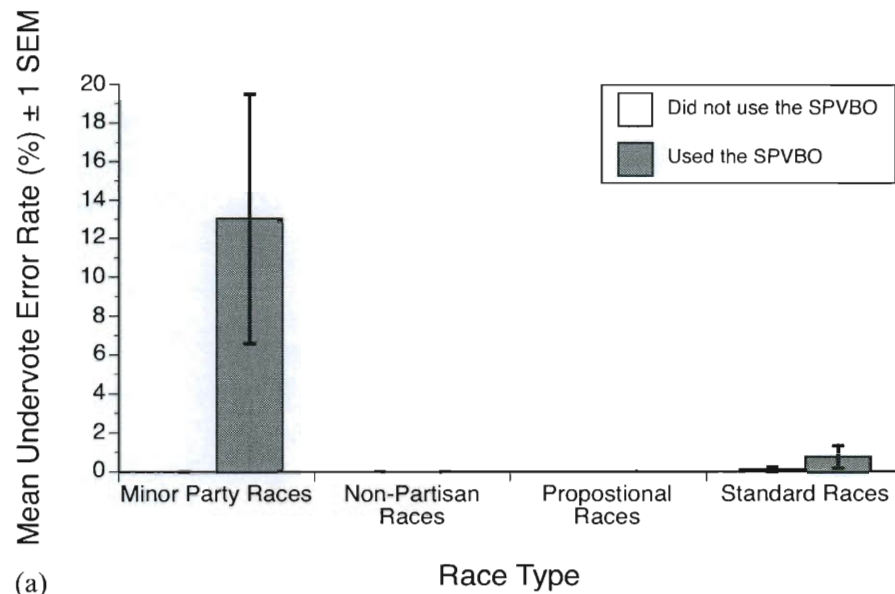


Figure 17. Mean error rate as a function of race type and SPVBO usage for (a) undervote errors and (b) wrong choice errors. Graphs for both overvote and extra vote errors were omitted due to the mean error rate of all race types for those error types being extremely low.

**Directed Voting on the DRE.** Subjects in the directed information condition voting on the DRE system made an average of 1.2 ( $SD = 2.6$ ) voting errors per ballot—a mean error rate of 4.4%—with 19 ballots containing at least one error. A 5 (Race Type) X 4 (Error Type) X 4 (SPVBO Instructions) X 2 (SPVBO Navigation Type) ANCOVA was used to analyze these subjects' ballot data and the covariate, subjects' age, was not a statistically reliable predictor of error rates.

The manner in which subjects navigated away from the SPVBO had a notable effect on error rates. Skipping the remaining partisan races after using the SPVBO resulted in a nearly 17-fold increase in the number of voting errors committed by subjects. Shown in Figure 18, the mean error rate for subjects who navigated away from the SPVBO via skipping the remaining partisan races was 5% whereas the mean error rate for those who navigated the entire ballot sequentially was only 0.3%—a statistically reliable difference in means:  $F(1, 55) = 28.36, p < .001$ .

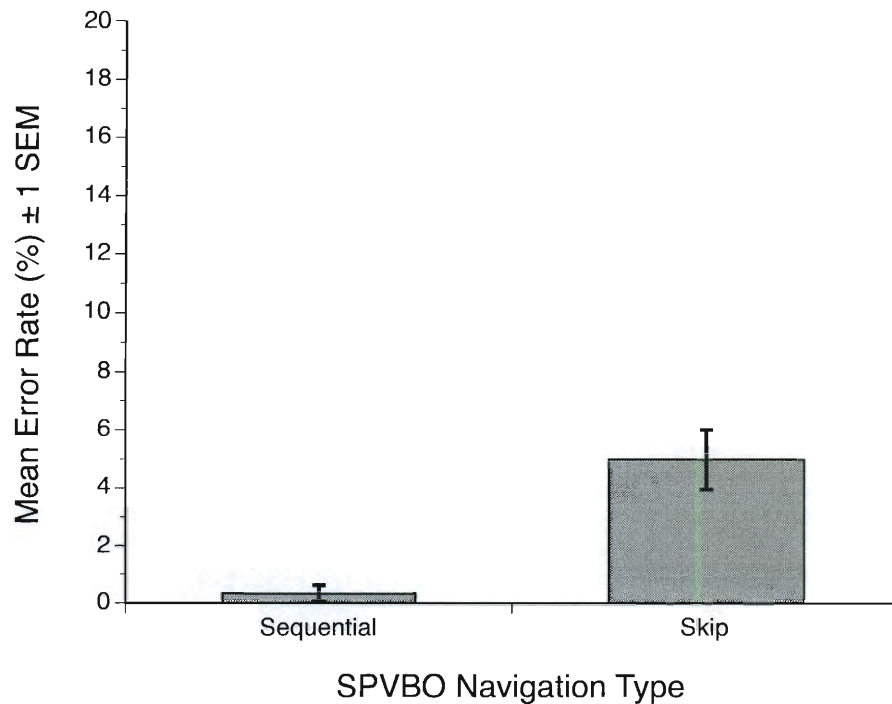


Figure 18. Mean error rate as a function of the type of navigation away from the SPVBO.

The increase in error rates as a result of subjects navigating away from the SPVBO via skipping the remaining partisan races did not appear to generalize to all error types; rather, only undervote errors and wrong choice errors. Shown in Figure 19, across all race types, using the SPVBO and then skipping the remaining partisan races resulted in a 10.5% increase in the undervote error rate and a 8.2% increase in the wrong choice error rate. The interaction between error type and SPVBO utilization was statistically reliable,  $F(1.9, 106.4) = 12.77, p < .001$  and a post-hoc interaction contrast confirmed that the increase in mean error rates for both undervotes and wrong choice errors, as a result of skipping races after using the SPVBO, was statistically reliable,  $F(1, 61) = 32.72, p < .001$ .



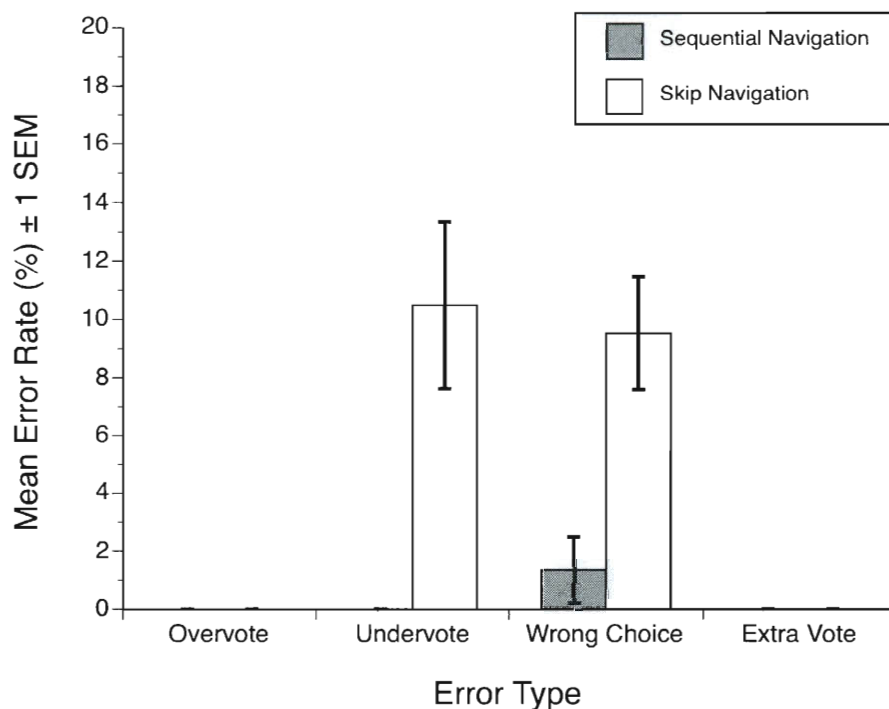


Figure 19. Mean error rate as a function of error type and the type of navigation away from the SPVBO.

Nearly all of the errors caused by skipping the remaining partisan races after having made a SPV selection occurred in either the cross-vote races or the minor party races. Shown in Figure 20, the mean error rate in the cross-vote races for subjects who navigated away from the SPVBO via skipping the remaining partisan races was 13.1% compared to only 0.6% for those who navigated the entire ballot sequentially. Similarly, the mean error rate in the minor party races for subjects who navigated away from the SPVBO via skipping the remaining partisan races was 10.7% whereas for those who navigated the entire ballot sequentially it was only 0.3%. The interaction between race type and SPVBO utilization was statistically reliable,  $F(1.5, 82.8) = 29.02, p < .001$ . A post-hoc interaction contrast confirmed that the difference in mean error rates for those

who navigated away from the SPVBO via skipping the remaining races for both the cross-vote and minor party races was substantially larger than that for the remaining race types,  $F(1, 64) = 37.56, p < .001$ .

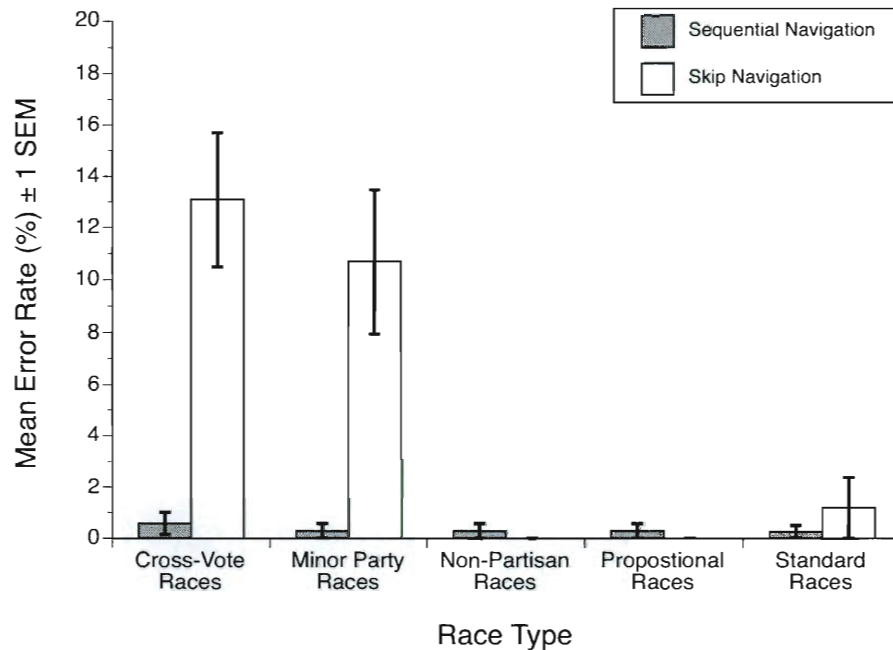


Figure 20. Mean error rate as a function of race type and the type of navigation away from the SPVBO.

While skipping the remaining partisan races after making a SPV selection led to a substantial increase in the undervote and wrong choice error rates (Figure 19 above), these increases were conditional based on race type (Figure 20 above) and error type. Shown in Figure 21a, mean undervote error rates were inflated for both the cross-vote (from 0% to 9.5%) and non-standard partisan (from 0% to 42.9%) races when subjects skipped the remaining partisan races after making a SPV selection. Similarly, wrong choice error rates (but not undervote error rates), shown in Figure 21b, were inflated for the cross-vote races (from 2.3% to 42.9%). Overall, the three-way interaction between

race type, SPVBO navigation type, and error type was statistically reliable,  $F(2, 112.1) = 24.36, p < .001$ . A post-hoc interaction contrasts confirmed, however, that (1) the increase in the mean undervote error rate due to subjects skipping races was greatest for the minor party races and that the same did not apply for wrong choice error rates,  $F(1, 61) = 40.89, p < .001$ , and (2) that the increase in the mean wrong choice error rate due to subjects skipping races was greatest for the cross-vote races and that the same did not apply for undervote error rates,  $F(1, 61) = 24.45, p < .001$ .

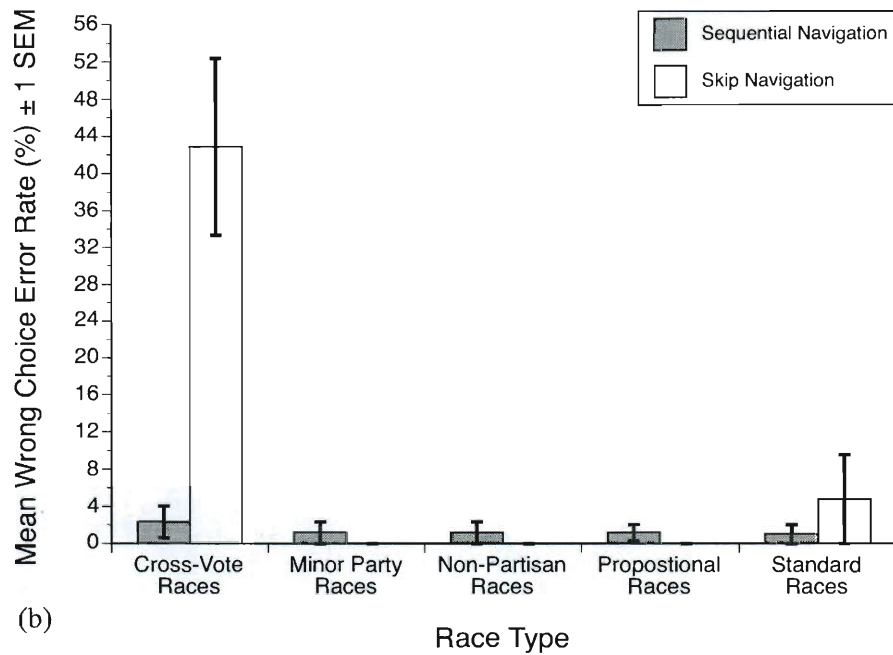
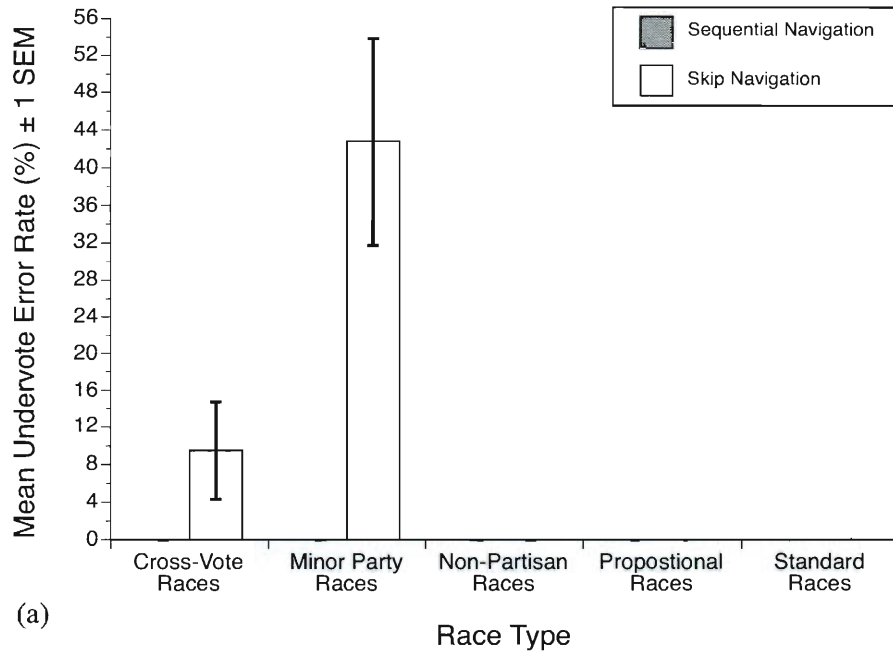


Figure 21. Mean error rate as a function of race type and SPVBO navigation type for (a) undervote errors and (b) wrong choice errors. Graphs for both overvote and extra vote errors were omitted due to the mean error rate of all race types for those error types being extremely low.

The type of instructions that accompanied the SPVBO also had a conditional impact on error rates. Shown in Figure 22, subjects who were given either zero or Redish's SPVBO instructions made more errors for both the cross-vote and minor party races than subjects who were given either KY's or RI's SPVBO instructions. Subjects who were given either zero or Redish's SPVBO instructions had mean error rates of 5.6% and 7.9%, respectively, in the cross-vote races and 3.5% and 6.3%, respectively, in the minor party races. This represents a substantial increase in mean error rates compared to those who were given KY's (2.3% for the cross-vote races and 2.1% for the minor party races) or RI's (1.8% for the cross-vote races and 1.3% for the minor party races) SPVBO instructions. Overall, the interaction between race type and SPVBO instruction type was statistically reliable— $F(4.5, 82.8) = 3.91, p = .004$ —and a post-hoc interaction contrast confirmed that being given either zero or Redish's SPVBO instructions resulted in elevated error rates for both the cross-vote and minor party races compared to the remaining race types,  $F(1, 70) = 5.84, p = .02$ .

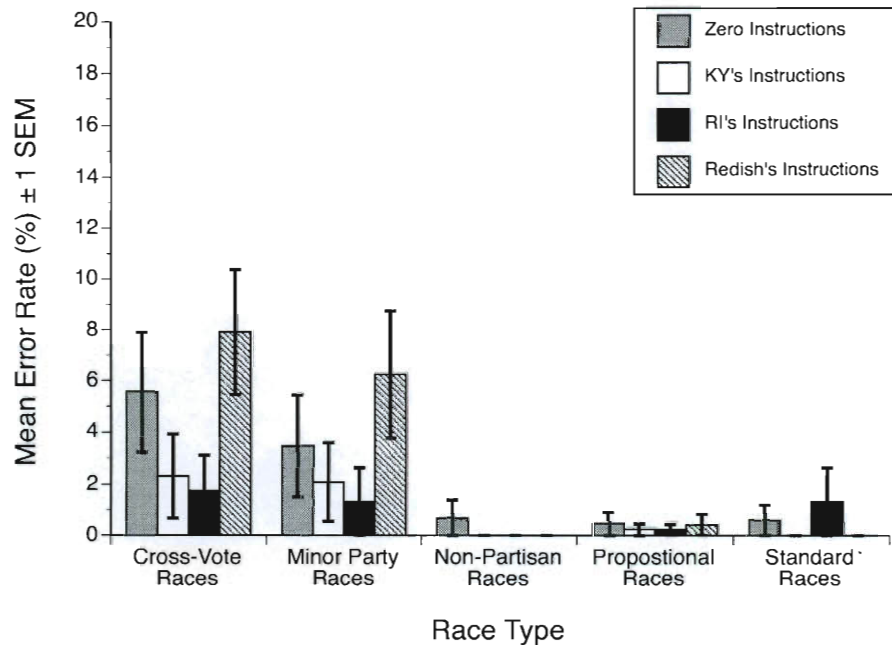


Figure 22. Mean error rate as a function of race type and SPVBO instruction type.

Similar to the increase in error rates due to skipping races (Figure 22 above), subjects who were given either zero or Redish's SPVBO instructions had higher mean undervote error rates in minor party races (Figure 23a) and higher wrong choice error rates in the cross-vote races (Figure 23b). The mean undervote error rate in minor party races for those given either zero or Redish's SPVBO instructions was 11.1% and 25%, respectively, compared to 5.6% and 5.3%, respectively, for those given KY's or RI's SPVBO instructions. Similarly, the mean wrong choice error rate in cross-vote races was 14.8% and 28.3% for those given either zero or Redish's SPVBO instructions, respectively, compared to 9.3% and 7% for those given KY's or RI's SPVBO instructions, respectively. Overall, the three-way interaction between race type, SPVBO instruction type, and error type was statistically reliable,  $F(6.1, 112.1) = 2.6, p = .02$ , and a post-hoc interaction contrasts confirmed that subjects given zero or Redish's SPVBO

instructions made reliably more undervote errors in the minor party races and reliably more wrong choice errors in the cross-vote races,  $F(1, 70) = 4.5, p = .04$ .

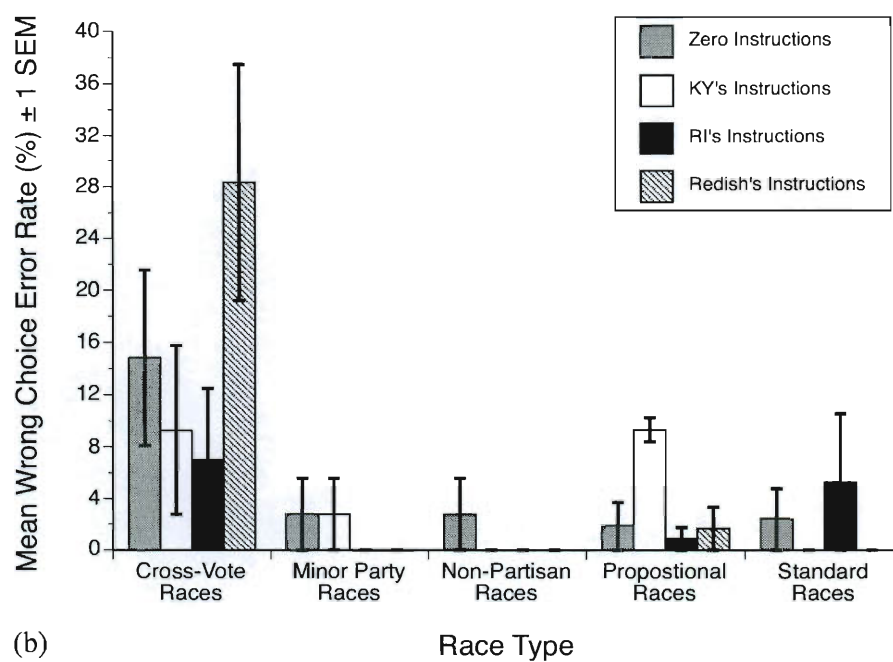
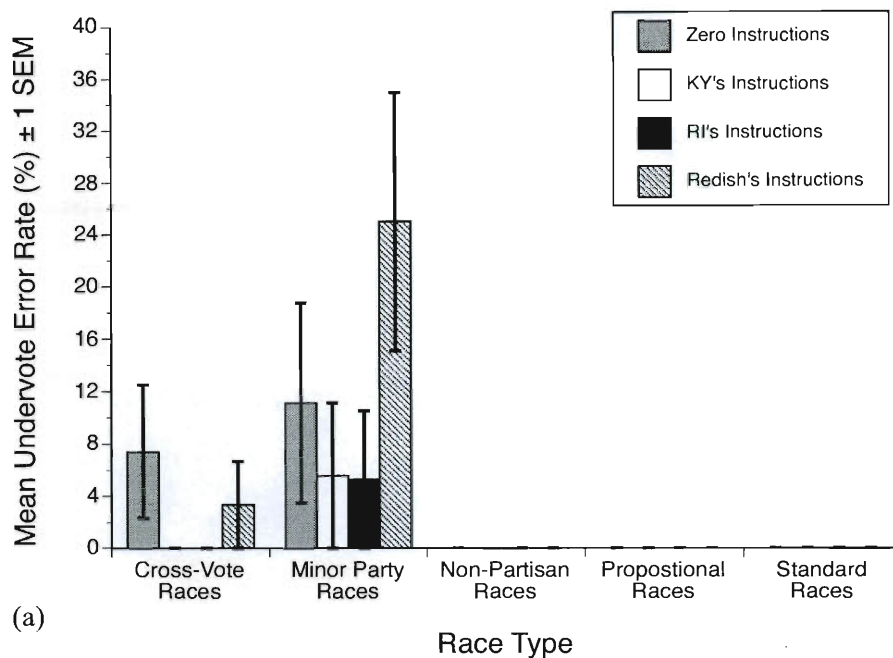
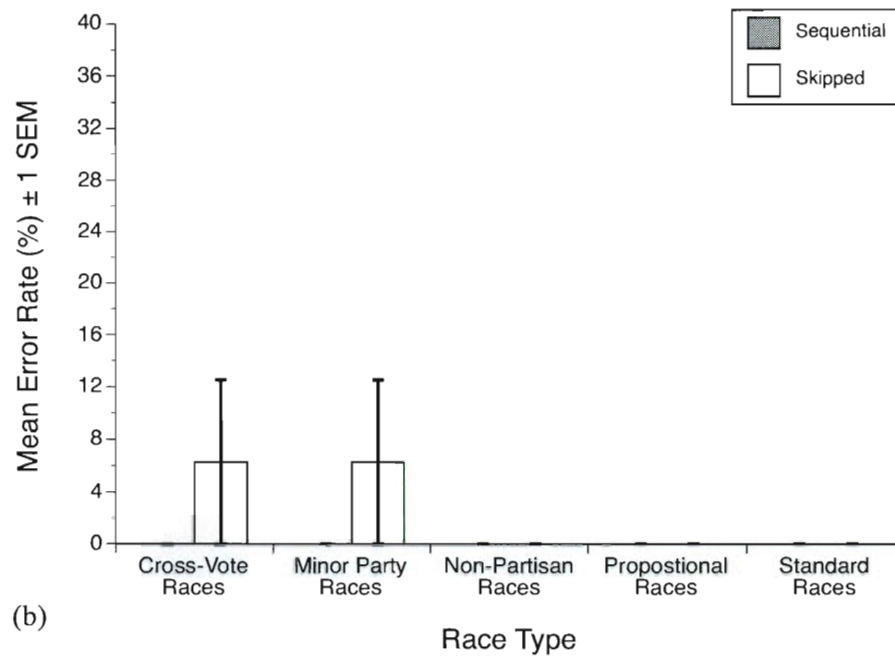
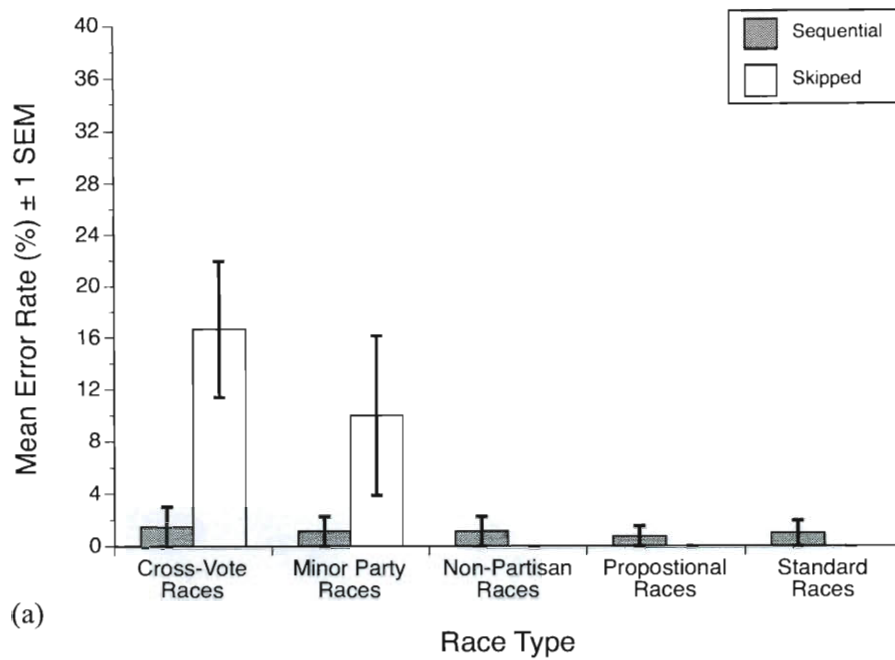


Figure 23. Mean error rate as a function of race type and SPVBO instruction type for (a) undervote errors and (b) wrong choice errors. Graphs for both overvote and extra vote errors were omitted due to the mean error rate of all race types for those error types being zero.



Finally, navigating away from the SPVBO via skipping races was problematic for the cross-vote and minor party races across all SPVBO instruction conditions (Figure 24). Nevertheless, Subjects who were given either zero or Redish's SPVBO instructions and then navigated away from the SPVBO via skipping races had considerably higher error rates in the cross-vote and minor party races. The mean error rates for those subjects who were given zero SPVBO instructions and navigated away from the SPVBO via skipping races were 16.7% and 10% in the cross-vote and minor party races, respectively, compared to 1.5% and 1.1% in the cross-vote and minor party races, respectively, for those who navigated the entire ballot sequentially (Figure 24a). Likewise, the mean error rates for those subjects who were given Redish's SPVBO instructions and navigated away from the SPVBO via skipping races were 19.1% and 17.9% in the cross-vote and minor party races, respectively, compared to 1.2% and 0% in the cross-vote and minor party races, respectively, for those who navigated the entire ballot sequentially (Figure 24d). Overall, the three-way interaction between race type, SPVBO navigation type, and SPVBO instruction type was statistically reliable,  $F(4.5, 82.8) = 3.11, p = .02$ . A post-hoc interaction contrast confirmed that mean error rates were reliably greater in the cross-vote and minor party races when subjects navigated away from the SPVBO via skipping races and were given either zero or Redish's SPVBO instructions,  $F(1, 55) = 9.09, p = .004$ .



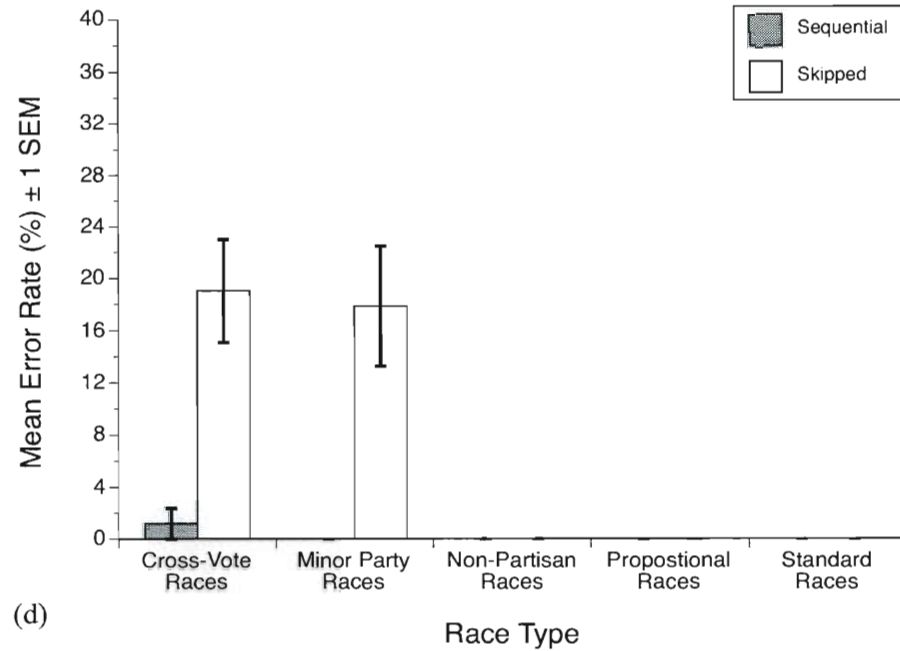
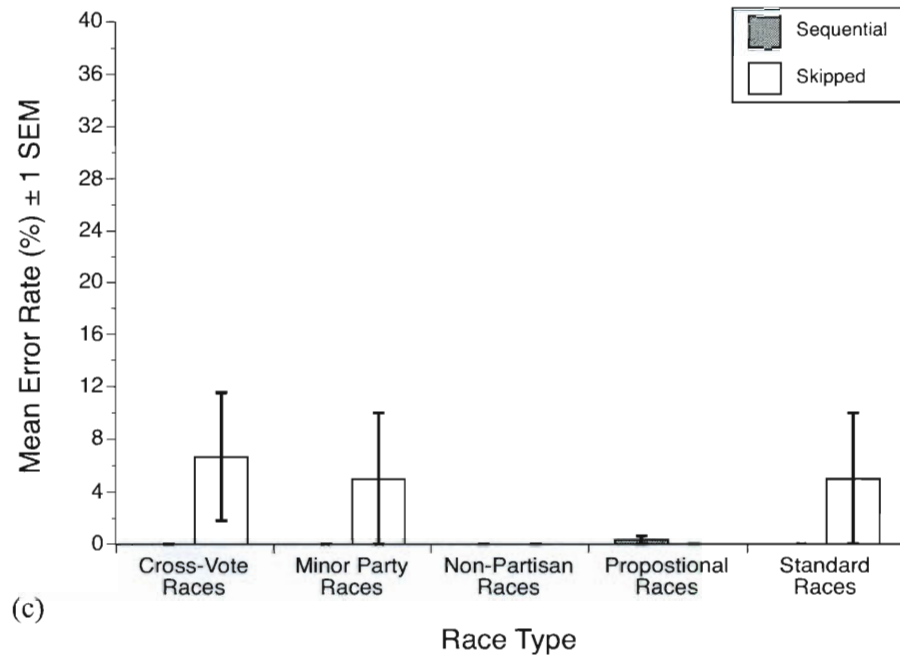


Figure 24. Mean error rate as a function of race type and SPVBO navigation type for (a) those who received zero SPVBO instructions, (b) those who received KY's SPVBO instructions, (c) those who received RI's SPVBO instructions, and (d) those who received Redish's SPVBO instructions.

**Undirected Voting on the Non-DREs.** Subjects in the undirected information condition voting on the non-DRE systems made an average of 1.1 ( $SD = 3.5$ ) voting errors per ballot (a mean error rate of 4.1%) with 21 ballots containing at least one error. A 3 (Race Type) X 4 (Error Type) X 4 (SPVBO Instruction Type) X 2 (SPVBO Utilization) X 2 (Non-DRE Technology) ANCOVA was used to analyze these subjects' ballot data. and the covariate, subjects' age, was not a statistically reliable predictor of error rates.

Non-DRE error rates were influenced by the type of SPVBO instructions subjects were given. Shown in Figure 25, the mean error rate was 1.2% for subjects given zero SPVBO instructions, 0.4% for subjects given KY's SPVBO instructions, 9.1% for subjects given RI's SPVBO instructions, and 5.6% for subjects given Redish's SPVBO instructions. Overall, the main effect of SPVBO instruction type was statistically reliable,  $F(3, 55) = 6.79, p = .001$ , and a post-hoc main effect contrast confirmed that those given RI's SPVBO instructions had the highest error rates of any instruction type,  $F(1, 55) = 19.1, p < .001$ .

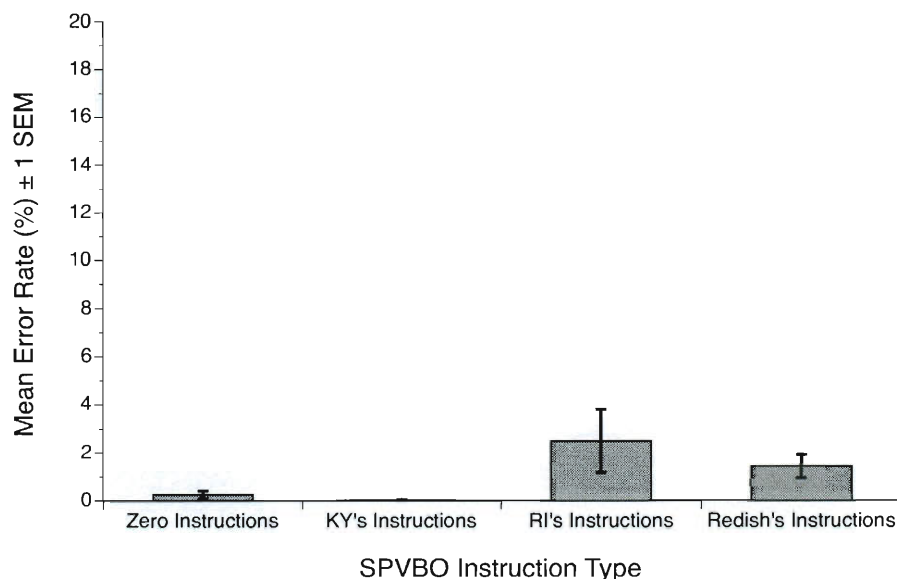


Figure 25. Mean error rate as a function of SPVBO instruction type.

Non-DRE error rates were also influenced by the usage of the SPVBO. More voting errors were likely when subjects used the bubble-style paper voting system and opted to use the SPVBO than when they did not. Shown in Figure 26, subjects who opted to use the SPVBO option while using the bubble-style paper voting system had a mean error rate of 2.5% compared to 0.2% for those subjects who did not—a statistically reliable difference in means,  $t(12.6) = 2.27, p = .04$ . Error rates when using the punch card voting system were approximately equal ( $M = 1\%$ ) between both users and non-users of the SPVBO. Overall, the interaction between non-DRE voting system and utilization of the SPVBO was statistically reliable,  $F(1, 55) = 6.77, p = .01$ .

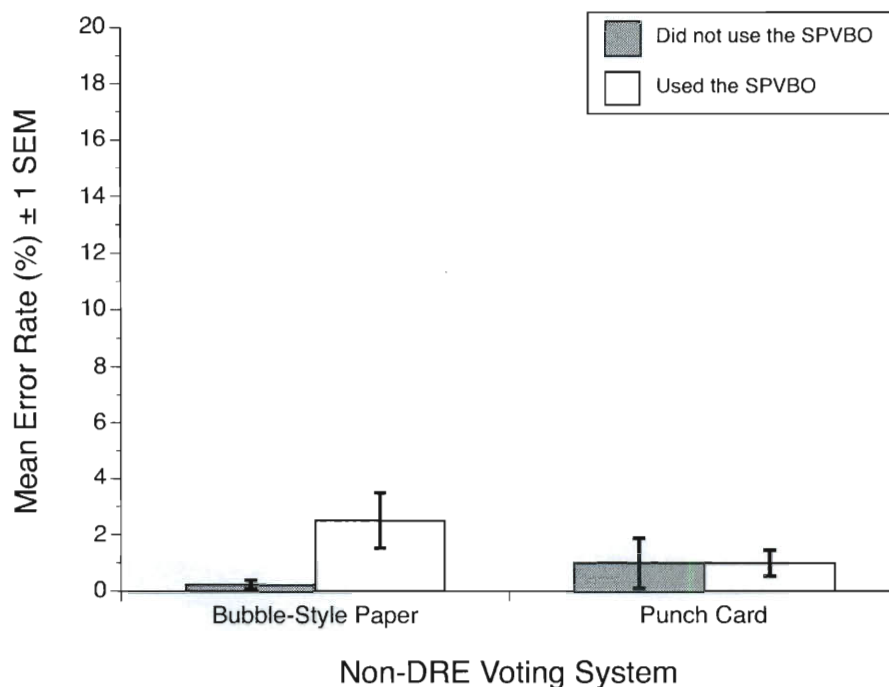


Figure 26. Mean error rate as a function of non-DRE voting system and SPVBO usage.

The increase error rates due to subjects utilizing the SPVBO while voting on the bubble-style paper system was a result of a substantial increase in undervote and wrong choice errors combined with a moderate increase in extra vote errors. Shown in Figure 27a, the mean undervote error rate increased by 7.6%, the mean wrong choice error rate increased by 2.8%, and the mean extra vote error rate increased by 1% as a result of subjects using the SPVBO. Shown in Figure 27b, for the punch card voting system, using the SPVBO appeared to have little effect on error rates. Overall, the three-way interaction between error type, SPVBO utilization, and non-DRE was statistically reliable,  $F(1.1, 61.9) = 5.16, p = .02$ , and simple interaction contrast effects confirmed that using the SPVBO reliably increased mean undervote, wrong choice, and extra vote rates only for those subjects who used the bubble-style paper voting system,  $F(1, 34) = 8.9, p = .01$ .

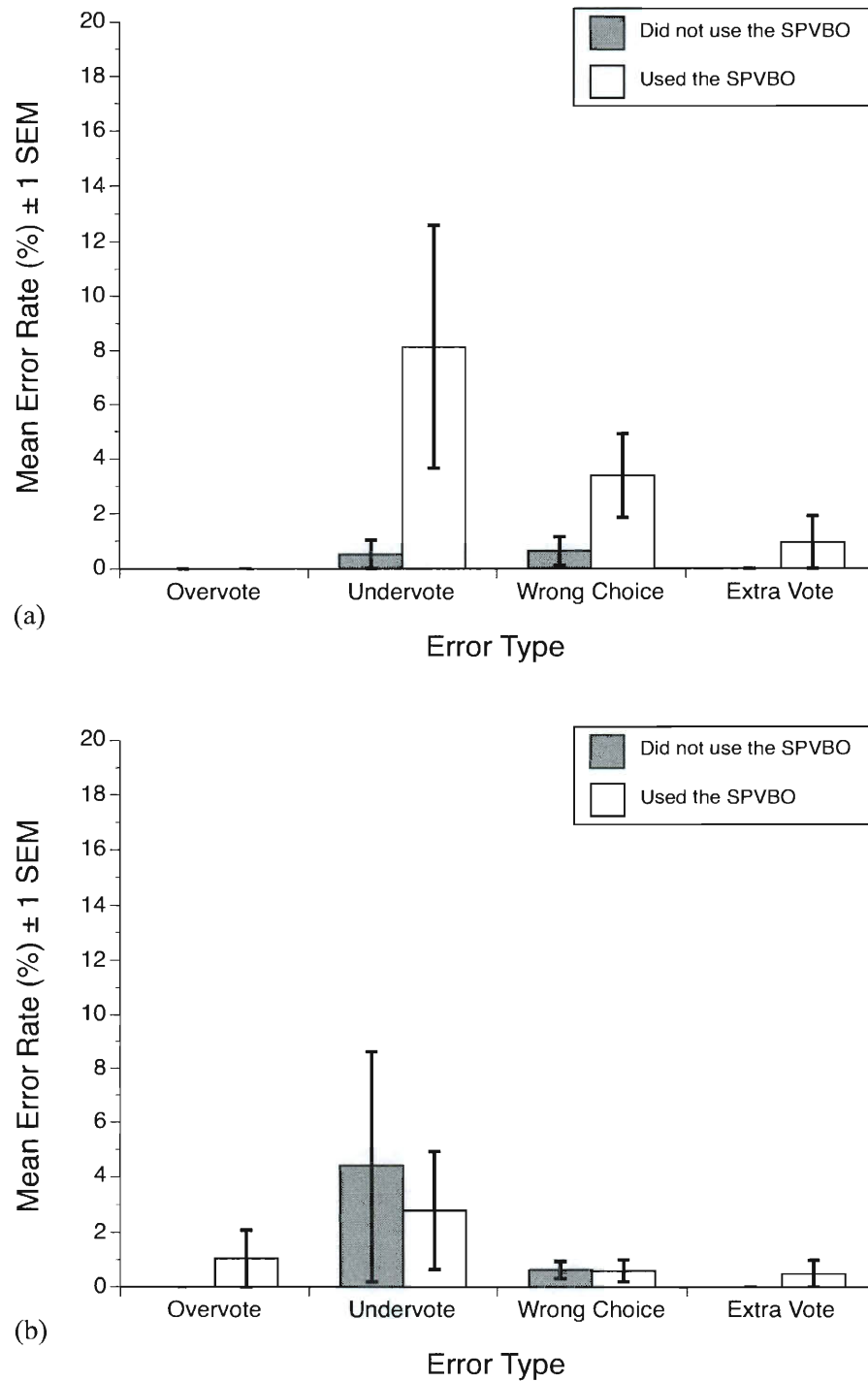
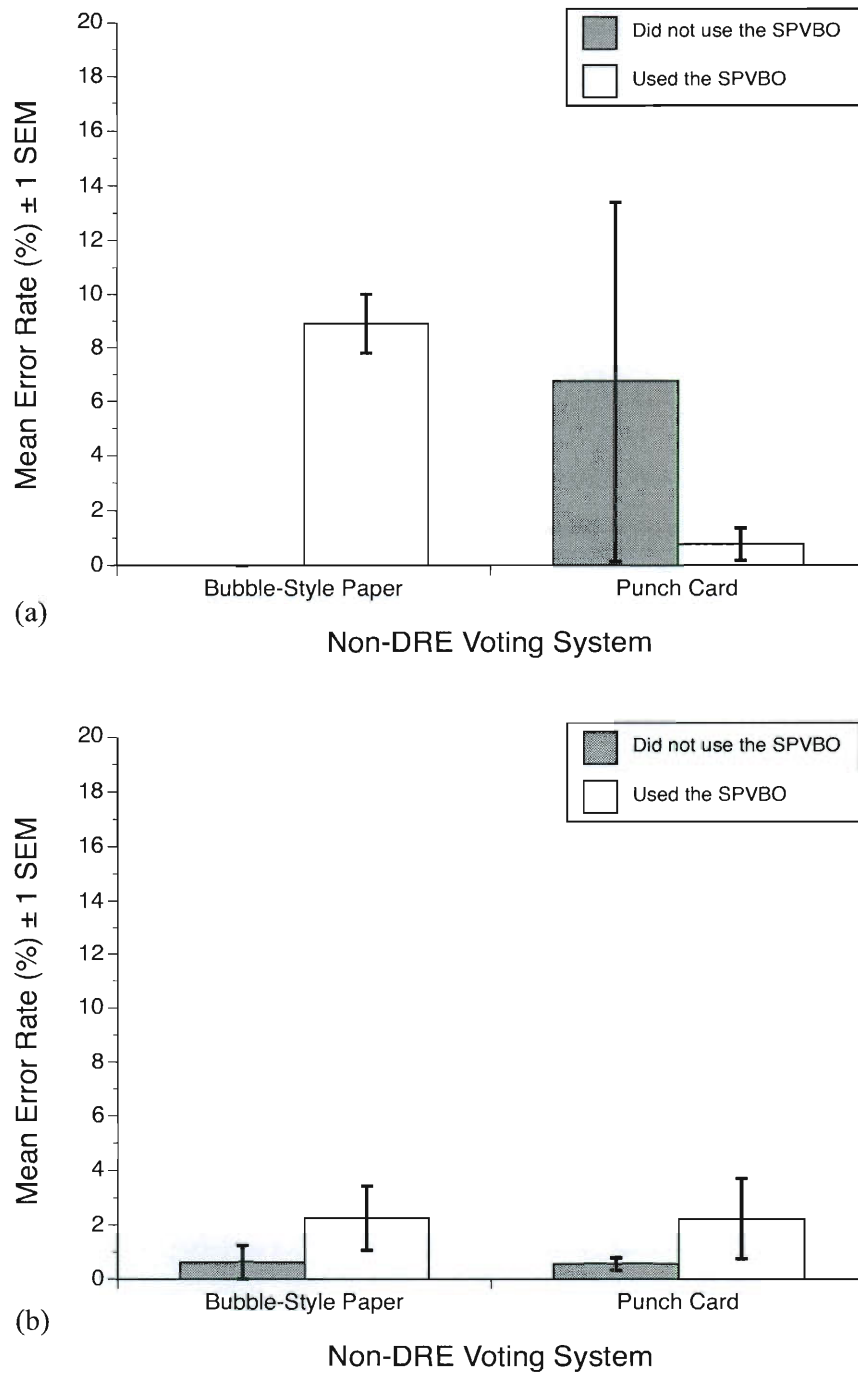


Figure 27. Mean error rate as a function of error type and SPVBO utilization for (a) the bubble-style paper voting system, and (b) the punch card voting system.

Finally, subjects who used the SPVBO and were given RI's SPVBO instructions made more voting errors when they used the paper voting system and fewer errors when they used the punch card voting system. Shown in Figure 28a, for subjects given RI's SPVBO instructions, the mean error rate for those who used the SPVBO on the paper voting system was 8.9% compared to 0% for those who did not use the SPVBO. The mean error rate for subjects who used the SPVBO on the punch voting system was 0.8% compared to 6.8% for those who did not use the SPVBO. Shown in Figure 28b, error rates for those given Redish's SPVBO instructions were generally equivalent between non-DRE voting systems and SPVBO usage. Overall, the three-way interaction between non-DRE voting system, SPVBO usage, and SPVBO instruction type was statistically reliable,  $F(3, 55) = 7.89, p < .001$ . A post-hoc interaction confirmed that for subjects given RI's SPVBO instructions the difference in means between using the SPVBO and not using the SPVBO on the paper voting system was reliably different from the difference in means between using the SPVBO and not using the SPVBO on the punch card voting system and that that pattern did not exist for those subjects given Redish's SPVBO instructions,  $F(1, 55) = 16.67, p < .001$ .





*Figure 28.* Mean error rate as a function of non-DRE voting system and SPVBO utilization for (a) those subjects given RI's SPVBO instructions, and (b) those subjects given Redish's SPVBO instructions. Graphs for both zero and KY's SPVBO instructions were omitted due to the mean error rate of both non-DRE voting systems being less than 1.

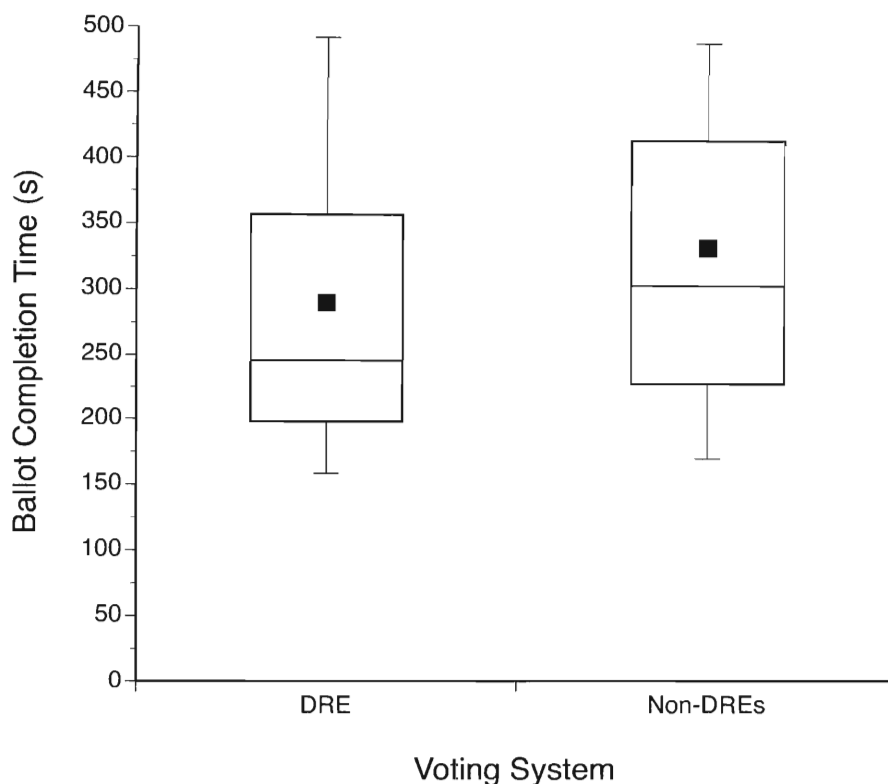
**Directed Voting on the Non-DREs.** Subjects in the directed information condition voting on the non-DRE systems made an average of 0.6 ( $SD = 3.2$ ) voting errors per ballot (a mean error rate of 2.2%) with 9 ballots containing at least one error. A 3 (Race Type) X 4 (Error Type) X 4 (SPVBO Instruction Type) X 2 (Non-DRE Technology) ANCOVA was used to analyze these subjects' ballot data. The covariate, subjects' age, was not a statistically reliable predictor of error rates and there were no main effects or interactions involving any of the IVs.

### **Efficiency**

Twenty-one subjects were excluded from this analysis for having ballot completion times that exceeded three IQR's away from the hinges on either the DRE or non-DRE voting system. Removal of this many outliers is not uncommon for voting research using this design. In the undirected information condition, subjects were allowed to keep the voter guide with them while they were voting. Occasionally this resulted in subjects who, after briefly glancing at the voter guide and indicating a readiness to vote, went on to read the voter guide while voting on one (or both) of the voting systems. This behavior generally resulted in those subjects artificially inflating their ballot completion times. Twenty-eight subjects were observed engaging in this reading-while-voting behavior.

**Ballot Completion Times.** The mean ballot completion time for the DRE voting system was 290s ( $SD = 142$ ) whereas the mean ballot completion time for both of the non-DRE voting systems was 333s ( $SD = 165$ ). The individual mean ballot completion times for the bubble-style paper and punch card voting systems were 313s ( $SD = 175$ s)

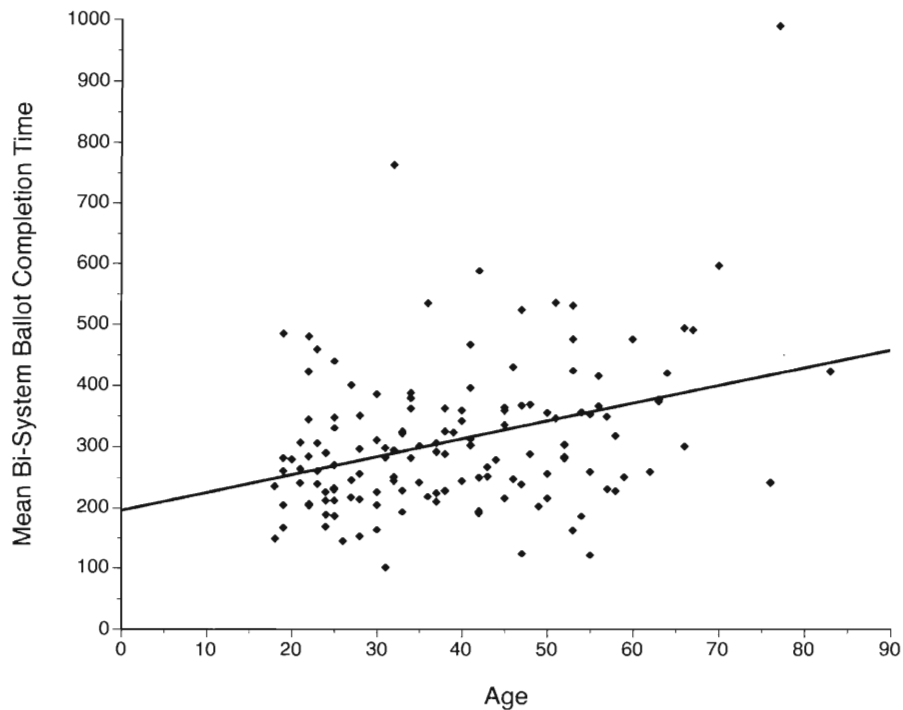
and 349s ( $SD = 155s$ ) respectively. The distribution of ballot completion times for both the DRE and non-DRE voting systems can be seen in Figure 29.



*Figure 29.* Distribution of ballot completion times as a function of voting system. Whiskers represent the 10<sup>th</sup> and 90<sup>th</sup> percentiles. Solid squares represent the means.

A 2 (Voting System) X 2 (Non-DRE Voting System) X 2 (Information Condition) X 4 (SPVBO Instruction Type) X 2 (DRE SPVBO Utilization) X 2 (Non-DRE SPVBO Utilization) ANCOVA was used to analyze subjects' ballot completion times. There were no main effects or interactions involving voting system, non-DRE voting system, SPVBO instruction type, or SPVBO utilization. The covariate, subjects' age, was a statistically reliable predictor of ballot completion such that, generally speaking, the older subjects were the longer it took them to complete their ballot. Age accounted for 11.7% (Adjusted

$R^2$ ) of the variance in ballot completion times,  $F(1, 93) = 11.9, p = .001$ , and the regression model predicting ballot completion times from subjects' age is depicted in Figure 30.



*Figure 30.* Scatterplot of mean ballot completion times as a function of subjects' age. The solid line represents the least squares regression line.

Shown in Figure 31, on the DRE voting system, the mean ballot completion time for those subjects who used the SPVBO was 270s ( $SD = 130s$ ) and 320s ( $SD = 144s$ ) for those subject who did not. Shown in Figure 32, on the non-DRE voting systems, the mean ballot completion time for those subjects who used the SPVBO was 304s ( $SD = 114s$ ) and 386s ( $SD = 219s$ ) for those subject who did not. Neither the system by DRE SPVBO utilization ( $F(1, 93) = .73, p = .4$ ) or the system by non-DRE SPVBO utilization ( $F(1, 93) = 1.7, p = .2$ ) interactions were statistically reliable.

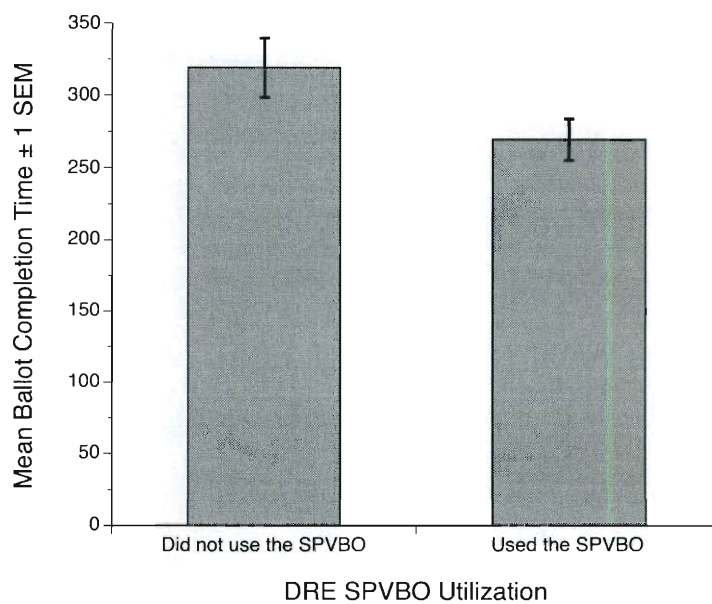


Figure 31. Mean ballot completion time as a function of DRE SPVBO utilization.

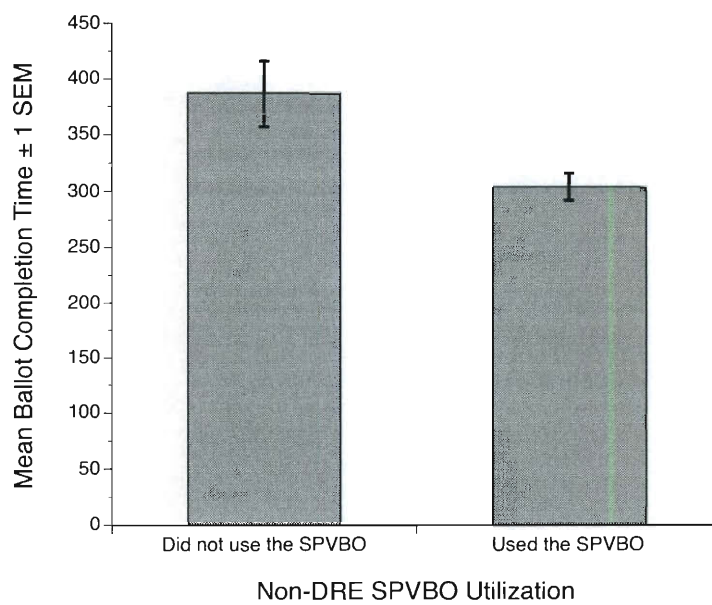


Figure 32. Mean ballot completion time as a function of non-DRE SPVBO utilization.

Across all other conditions, subjects who were given a slate of candidates tended to vote faster than subjects who were given a voter guide. Shown in Figure 33, subjects in the undirected information condition took an average of 81 seconds longer to vote ( $M = 359s$ ) than subjects in the directed information condition ( $M = 278s$ )—a statistically reliable difference in means,  $F(1, 93) = 7.55, p = .007$ .

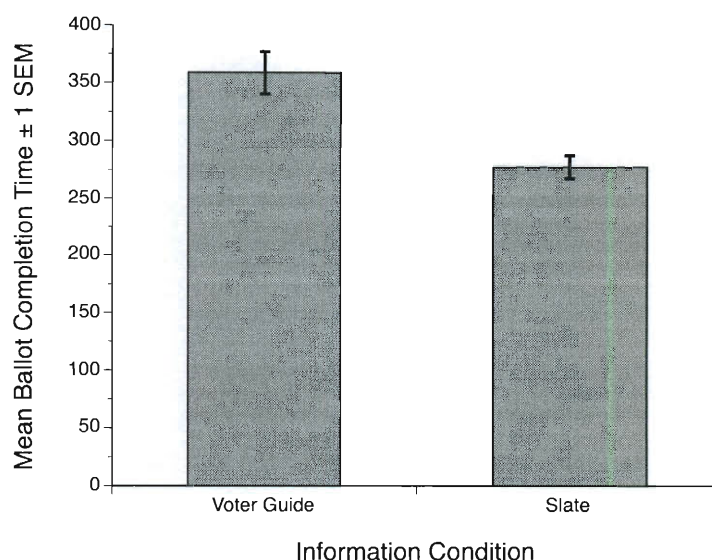


Figure 33. Mean ballot completion time as a function of information condition.

### Satisfaction

**SUS Scores.** The mean SUS score for the DRE voting system was 88.8 ( $SD = 14.2$ ) whereas the mean SUS score for both of the non-DRE voting systems was 67.6 ( $SD = 22.7$ ). The individual mean SUS scores for the bubble-style paper and punch card voting systems were 74.6 ( $SD = 19.4$ ) and 61.3 ( $SD = 23.7$ ) respectively. SUS scores for the non-DRE voting systems can be seen in Figure 34.

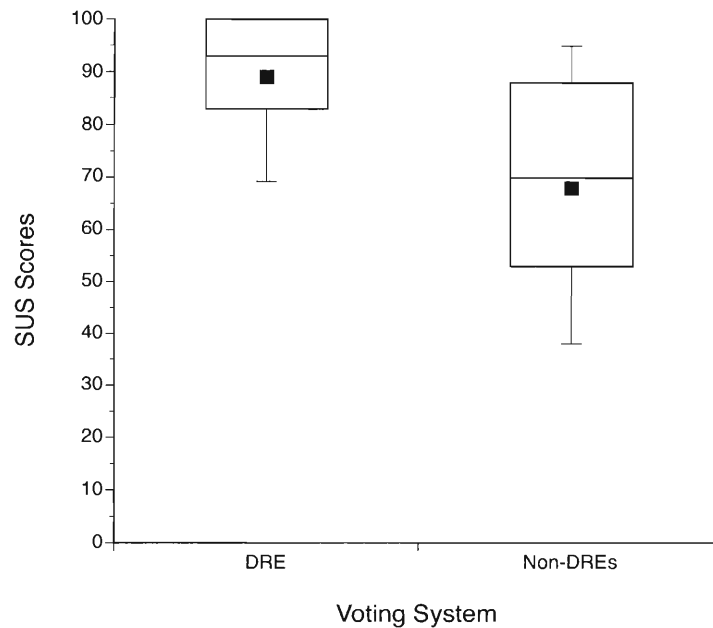


Figure 34. Distribution of SUS scores as a function of voting system. Whiskers represent the 10<sup>th</sup> and 90<sup>th</sup> percentiles. Solid squares represent the means.

A 2 (Voting System) X 2 (Non-DRE Voting System) X 2 (Information Condition) X 4 (SPVBO Instruction Type) X 2 (DRE SPVBO Utilization) X 2 (Non-DRE SPVBO Utilization) ANCOVA was used to analyze subjects' SUS ratings. There were no main effects or interactions involving information condition, SPVBO instruction type, or SPVBO utilization and the covariate, subjects' age, was not a statistically reliable predictor of SUS scores.

Subjects indicated that they were more satisfied, overall, with the DRE voting system compared to the non-DRE systems (Figure 35). The mean SUS score for the DRE voting system was 88.8 ( $SD = 14.2$ ) whereas the mean SUS score for the non-DRE voting systems was 67.8 ( $SD = 22.6$ )—a statistically reliable difference in means,  $F(1, 110) = 10.02, p = .002$ .

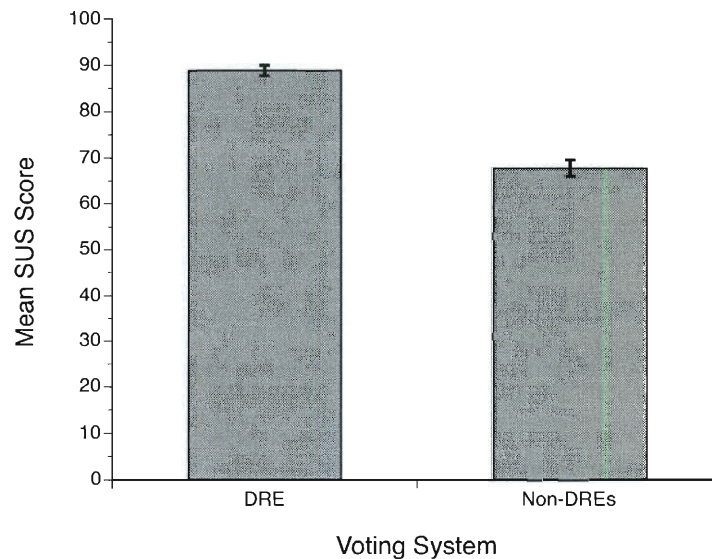


Figure 35. Mean SUS scores as a function of voting system.

On average, SUS scores were higher for the DRE voting system than the bubble-style paper which, in turn, were higher than SUS scores for the punch card voting system. Shown in Figure 36, the mean SUS scores for those who voted on the DRE and paper voting systems were 87.2 ( $SD = 14.9$ ) and 74.6 ( $SD = 19.4$ ), respectively, while the mean SUS scores for those who voted on the DRE and punch card voting systems were 90.3 ( $SD = 13.4$ ) and 61.3 ( $SD = 23.7$ ), respectively. The interaction between voting system and non-DRE voting system was statistically reliable,  $F(1, 110) = 8.35, p = .005$ . A post-hoc interaction contrast confirmed that the difference in mean SUS scores was reliably greater between the DRE and punch card voting systems than between the DRE and bubble-style paper voting systems,  $F(1, 158) = 5.75, p = .02$ , and simple main effects confirmed that SUS scores were reliably higher for the bubble-style paper voting system than for the punch card voting system,  $F(1, 158) = 15.00, p < .001$ .



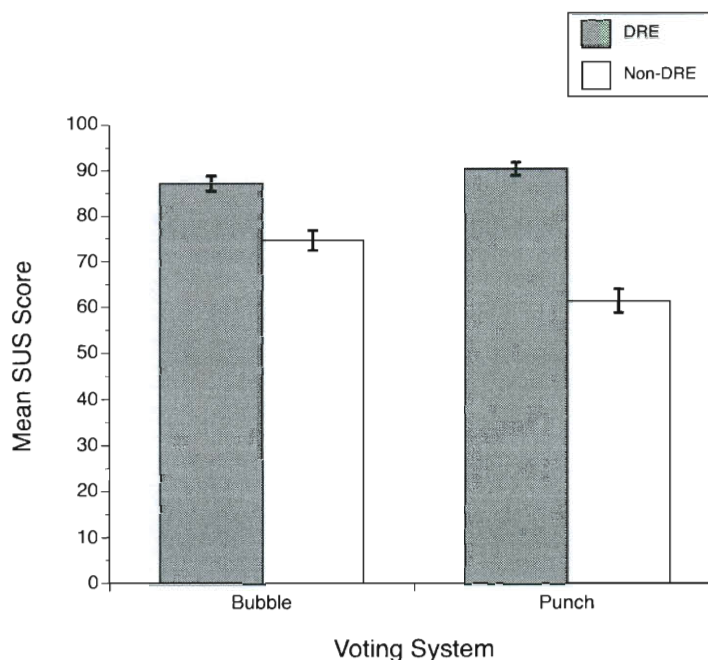


Figure 36. Mean SUS scores as a function of DRE vs. non-DRE voting systems.

## Discussion

### Using the SPVBO

From a usability perspective, the SPVBO would appear to afford voters a means to more efficiently and effectively completing their ballots. Using the SPVBO carries the innate potential to decrease the likelihood of voting errors and reduce the time it takes voters to complete their ballots; both of which are a result of requiring fewer voting selections from the voter. In doing so, it would intuitively follow that a more efficiently and effectively completed ballot would result in greater voter satisfaction. However, the results obtained from this experiment suggest that the SPVBO may have little impact, if any, on voting system efficiency or satisfaction. While using the SPVBO appeared to

have little effect on error rates for standard partisan races, using the SPVBO had a profound negative effect on voting error rates.

In the undirected information condition, using the SPVBO on the DRE voting system resulted in a reliable increase in error rates for the minor party races. Subjects in undirected information condition who used the DRE voting system made, on average, nearly 13 times the number of voting errors when they they did not use the SPVBO. This increased error rate was due, almost entirely, to a dramatic increase in the undervote error rate for those races. Subjects who did not use the SPVBO made no undervote errors for the minor party races while those who did use the SPVBO made an undervote error, on average, 13.5% of the time. Similar results were obtained for subjects using the paper-based non-DRE voting system in the undirected information condition; though, all race types appeared to be equally effected. Subjects in the undirected information condition voting on the paper-based voting system who used the SPVBO suffered higher undervote, wrong choice, and extra vote error rates (in order of magnitude) than subjects who did not use the SPVBO.

The effectiveness results from the undirected information condition appear to, at least partially, support the observation noted in Nichols (1998) that, voters may treat the SPVBO as a one-and-done voting operation leaving non-partisan races and propositions un-voted. At the very least, these results suggest that subjects were unaware of, or disinclined to correct, their abstentions. It should be noted, however, that U.S. voters have the right to abstain from voting in any or all contests (a.k.a. intentionally undervoting). Nevertheless, many subjects who used the SPVBO in this experiment indicated that their

intention was to vote in the minor party races but ultimately failed to do so because, presumably, they were not included in the straight-party vote. It is not clear from these results, however, whether or not, in a real election, this would necessarily put candidates from races composed entirely of minor party candidates at a significant disadvantage as neither candidate was voted for. Even so, these results suggest that if this had been a real election, subjects would not have had their intentions accuracy reflected when their ballot was tallied.

Although this research does not establish a casual link, it may be the case that the substantial increase in the DRE undervote error rate due subjects using the SPVBO was actually due to the DRE's ability to allow subjects to skip past the remaining partisan races. As evidenced by data from the directed information condition, the DRE's ability to skip past the partisan races after using the SPVBO was problematic for subjects. Driven by a substantial increase in the undervote and wrong choice error rates, subjects who chose to skip the partisan contests after using the SPVBO made more voting errors, on average, than subjects who chose to navigate the entire ballot sequentially. The increase in undervote and wrong choice error rates were, however, primarily localized to the cross-vote and minor party races. Subjects who chose to skip the partisan contests suffered a dramatic increase in the wrong choice error rate for the cross-vote races and a similarly dramatic increase in the undervote error rate for the minor party races. It may also be the case that skipping the partisan races only exacerbated the increase in DRE undervote errors. In both the DRE and non-DRE undirected information conditions, using

the SPVBO led to an increase in undervote error rates and in the case of the non-DREs there was nothing mechanically analogous to skipping the partisan races after a SPV.

Despite the negative effect using the SPVBO had on voting error rates, there was no evidence as a result of this experiment to suggest that subjects who used the SPVBO voted any faster, or slower, on any of the voting systems used. This is a peculiar observation in that is counter to what was expected; that using the SPVBO would reduce ballot completion times via a reduction in the number of overall task elements. The same was also true of voting system satisfaction. There was no evidence, as a result of this experiment, to indicate that voting system satisfaction was influenced, in any way, by use of the SPVBO.

Unfortunately, this research was inconclusive regarding the importance of SPVBO instruction sets. In the undirected information condition on the DRE voting system, there was no evidence to support the notion that instructional clarity influenced error rates in any way. Inconsistently, in the undirected information condition for the non-DRE voting systems subjects made reliably more errors on the paper-based voting system and reliably fewer errors on punch card voting system when given RI's SPVBO instructions. A similar discontinuity existed for the DRE and non-DRE directed information conditions. In the directed information condition on the DRE voting system error rates were reliably higher for the cross-vote and minor party races when subjects were given either zero or Redish's SPVBO instructions and subsequently skipped the partisan races after using the SPVBO. In the directed information condition on the non-DRE voting systems there was no evidence to suggest that SPVBO instructions had any

effect on error rates. Further, there was no evidence that SPVBO instructions had any effect on the efficiency or satisfaction of any the voting systems used in this experiment. This research also replicated findings from previous mock election usability research. Subjects indicated that they were generally more satisfied with the DRE voting system than the non-DRE voting systems. Specifically, subjects indicated that they were more satisfied with the DRE voting system than the bubble-style paper voting system and more satisfied with the bubble-style paper voting system than the punch card voting system. These results agree with Campbell and Byrne, 2009a, Everett et al., 2008, and Greene, 2008, who also noted that the DRE voting system provided more satisfaction than the non-DRE voting systems. As these authors have previously suggested, voters appear have a strong subjective preference for electronic voting systems above and beyond the more traditional paper based voting systems despite no obvious objective benefit.

Finally, the information condition that subjects were in effected ballot completion times; subjects in the directed information condition voted reliably faster than subjects in the undirected information condition. Usability researchers should be aware that, while having subjects use a slate of candidates to vote for is easier to administer and simplifies data analysis, their estimates of voting system efficiency may be artificially reduced by doing so.

### **Conclusion and Future Directions**

Taken together, the results from this experiment suggest that there is likely no explicit benefit to be gained by including a SPVBO on ballots. From a usability perspective, it was unexpected that using the SPVBO did not conform to a traditional

speed-accuracy tradeoff—there was only cost associated with using the SPVBO. Consequently, the results presented here have important implications for election officials and public policy makers. There is an important distinction, however, between the results obtained from the DRE voting system and the results obtained from the paper-based non-DRE voting system. In the undirected information condition, subjects voting on the DRE voting system made substantially more voting errors (undervote errors) in the minor party races as a result of using the SPVBO, whereas subjects voting on bubble-style paper voting system made more errors (undervote, wrong choice, and extra vote errors) across all race types as a result of using the SPVBO. This distinction is important but difficult to quantify as it is unclear which is worse, a dramatic increase in error rates for a specific race type or a global increase in error rates that is comparatively moderate (yet still unsettling). Election officials and public policy officials should be aware that using the SPVBO has the potential to produce ballots that are not indicative of voters' intentions—for both electronic and non-electronic voting systems. Similar to the recommendations made by Neimi and Herrnson (2003) and Redish et al. (2008), public policy makers may want to consider the altogether removal of SPVBOs from their ballots. As evidenced from this research, the SPVBO appears to provided little or no usability benefit in terms of voting system efficiency or satisfaction and may actually substantially increase voting error rates (particularly undervote error rates).

While declining in use (NCSL, 2008), the availability of SPVBOs is unlikely to dissipate quickly. Therefore, further usability research is needed to disambiguate the importance of SPVBO instructional clarity as the results presented here are at odds with

those presented in Redish et al. (2008). While the findings from this experiment were inconsistently negative, Redish et al. (2008) observed that plain language SPVBO instructions can enhance (albeit to a minor degree) the usability of SPVBOs. The inconsistent results regarding the SPVBO instructions presented in this research may suggest that, unless simply removed, little can be done to alleviate the problems associated with SPVBOs. This follows the conclusions drawn by Redish et al. (2008). It may be the case that, generally speaking, voters simply do not fully understand how the SPVBO alters the ballot. In 2009, Campbell and Byrne suggested that voters may not have the correct mental model of SPVBOs--voters interacted with a SPVBO one way and then complained that it worked that way (even though it didn't). This is likely to be especially true for electronic voting systems. Electronic voting systems present a unique usability challenge in that the state of the ballot can be easily and dynamically changed without the need to acquire a new ballot (such as is usually the case with paper-based or punch card voting systems) or start the voting process over. Changing a SPVBO selection mid-ballot (e.g., by recognition of an error or a change of heart) can alter an electronic ballot in extremely complex ways depending on a voters current selections. Short of forcing voters to read SPVBO instructions (and even then there would be no guarantee of comprehension), it is likely that SPVBOs will, especially on DREs, remain complicated and or confusing.

However, despite being unable to offer any conclusive advice regarding SPVBO instructions, voting system designers and those responsible for generating ballot designs should not be dissuaded from creating voting content that is consistent with emerging

usability standards (Campbell & Byrne, 2009a; Laskowski et al., 2004; Norden et al., 2008) and plain language ballot design (Redish, 2006; Redish et al., 2008) as both have been shown to have positive effects on voting system usability. In particular, electronic voting system designers and those responsible for generating electronic ballot designs should be wary of allowing voters to skip partisan races after completing a SPVBO. Research by Greene (2008) has shown that, in general, allowing voters to directly navigate to desired races (which skipping races is a form of), as opposed to forcing them to sequentially navigate a ballot, can substantially increase intentional undervotes (which are non-errors) as well as undervote errors. Evidence from this experiment extends Greene's findings and further suggests that allowing voters to skip partisan races after completing a SPVBO may drastically increase undervote errors in minor party races and wrong choice errors in races where the voter intended to make a cross-vote.



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## Appendix A

*Table A1.* Additional subject demographics. One subject did not report their level of education, three subjects did not report their ethnicity, and five subjects did not report their level of income.

Level of Education	Frequency	Percentage
High school or less	20	12%
Some college	61	38%
Bachelor's degree	52	32%
Postgraduate degree	28	17%

Race / Ethnicity	Frequency	Percentage
African American	35	22%
Asian American	14	9%
Caucasian	82	51%
Hispanic	12	7%
Other / Multiracial	16	10%

Level of Income	Frequency	Percentage
Below \$20K	57	35%
\$20K - \$40K	45	28%
\$40K - \$60K	29	18%
\$60K - \$80K	22	14%
Above \$80K	4	3%

## Appendix B1

Instructions given to subjects in the directed information condition.

### Voting Study Instructions

As previously described in the informed consent paper, the ballots you are about to complete are solely for research purposes. This is a completely anonymous mock election; your name will not be associated with our results in any way.

**Please be aware of the following:** All materials in this study have been compiled solely for research purposes and are not intended to reflect the views of Rice University or of the researchers associated with this study. Also, you may or may not recognize the names used in this study. While in some cases they may be real political candidates, these people are not necessarily running for the offices mentioned in this study. Should you receive a voter guide, the statements in it were not necessarily made by the candidates and in some cases were created by the researchers.

There will be two different voting methods you will use to cast your vote. You will vote using only two of the following four methods. The experimenter will tell you which methods you will use:

- 1) Pull the lever next to your selection
- 2) Fill in the bubble next to your selection
- 3) Punch a hole next to your selection
- 4) Use a computer to click the button that contains your selection

At the top of each ballot, on the right-hand side of the lever machine, or on the first screen on the computer system, you will find instructions for casting your vote on that particular voting method.

Along with your first ballot, you will also receive a piece of paper telling you exactly who to vote for; **please vote by making exactly those choices on both voting methods.** We realize the candidates we are asking you to vote for may not be those you would normally choose; **we are interested in measuring differences between voting methods, not in assessing political preferences.**

After you have finished reading this paper and asked any questions you might have, a research assistant will hand you the first ballot type and show you to a room where you can complete it. When you are done with this first ballot, please tell the research assistant and s/he will give you your second ballot.

After you have voted on both voting methods, you will receive a survey asking you questions about your satisfaction using the different voting methods, your usual voting habits, etc. This survey is an important part of the experiment so please answer carefully and thoroughly. You will then receive a debriefing form that tells you more about this research.

Please take a moment to be sure you understand these instructions and to ask any questions you may have about the procedure, then let the research assistant know when you are ready to begin.

## Appendix B2

Instructions given to subjects in the undirected information condition.

### Voting Study Instructions

As previously described in the informed consent paper, the ballots you are about to complete are solely for research purposes. This is a completely anonymous mock election; your name will not be associated with our results in any way. **We ask that you please complete each ballot as you would if it were a real election.** For example, we may or may not provide you with a voter's guide. If we provide you with a voter's guide and this is something you would use in a real election, you may write on it and take it into the voting room with you if you wish. Alternatively, if you would not normally use a voter's guide, you do not have to use it at all. If you would normally choose a candidate for every office in a real election, please do so. Alternatively, if you would not want to choose a candidate for a particular office, please leave that office blank.

**Please be aware of the following:** All materials in this study have been compiled **solely for research purposes** and are not intended to reflect the views of Rice University or of the researchers associated with this study. Also, you may or may not recognize the names used in this study. While in some cases they may be real political candidates, these people are **not** necessarily running for the offices mentioned in this study. Should you receive a voter guide, the statements in it were **not** necessarily made by the candidates and in some cases were created by the researchers.

There will be two different voting methods you will use to cast your vote. You will vote using only two of the following four methods. The experimenter will tell you which methods you will use:

- 1) Pull the lever next to your selection
- 2) Fill in the bubble next to your selection
- 3) Punch a hole next to your selection
- 4) Use a computer to click the button that contains your selection

**Please be consistent in your choices for both ballots.** At the top of each ballot, on the right-hand side of the lever machine, or on the first screen on the computer system, you will find instructions for casting your vote on that particular voting method.


After you have finished reading this paper and asked any questions you might have, a research assistant will hand you the first ballot type and show you to a room where you can complete it. When you are done with this first ballot, please tell the research assistant and s/he will give you your second ballot.

After you have voted on both voting methods, you will complete a brief exit interview with the experimenter and then you will receive a survey asking you questions about your satisfaction using the different voting methods, your usual voting habits, etc. This survey is an important part of the experiment so please answer carefully and thoroughly. You will then receive a debriefing form that tells you more about this research.

Please take a moment to be sure you understand these instructions and to ask any questions you may have about the procedure, then let the research assistant know when you are ready to begin.

## Appendix C1

Figure C1. The front of the paper-style bubble ballot. This ballot features the SPVBO instructions found on RI's 2008 sample ballot.

GENERAL ELECTION BALLOT HARRIS COUNTY, TEXAS NOVEMBER 4, 2009		
<p>• TO VOTE, COMPLETELY FILL IN THE OVAL  NEXT TO YOUR CHOICE.</p> <p>• Use only the marking device provided or a number 2 pencil.</p> <p>• If you make a mistake, do not hesitate to ask for a new ballot. If you erase or make other marks, your vote may not count.</p>		
<b>STRAIGHT PARTY VOTING</b>	<b>STATE</b>	<b>COUNTY</b>
<p>Fill in the oval for the party of your choice in the straight party section of the ballot. If you cast a straight party vote and also vote for an individual candidate or candidates for a certain office on the ballot, the straight party vote will not be counted for that office and only the individual candidate or candidates voted for will be counted for that office.</p> <p><input type="radio"/> Republican REP</p> <p><input type="radio"/> Democratic DEM</p>	<p>ATTORNEY GENERAL (Vote for One)</p> <p><input type="radio"/> Tim Speight REP</p> <p><input type="radio"/> Rick Organ DEM</p>	<p>DISTRICT ATTORNEY (Vote for One)</p> <p><input type="radio"/> Corey Behnke REP</p> <p><input type="radio"/> Jennifer A. Lundeed DEM</p>
	<p>COMPTROLLER OF PUBLIC ACCOUNTS (Vote for One)</p> <p><input type="radio"/> Therese Gustin IND</p> <p><input type="radio"/> Greg Converse DEM</p>	<p>COUNTY TREASURER (Vote for One)</p> <p><input type="radio"/> Dean Caffee REP</p> <p><input type="radio"/> Gordon Kallas DEM</p>
	<p>COMMISSIONER OF GENERAL LAND OFFICE (Vote for One)</p> <p><input type="radio"/> Sam Saddler REP</p> <p><input type="radio"/> Elise Elizay DEM</p>	<p>SHERIFF (Vote for One)</p> <p><input type="radio"/> Stanley Saari GP</p> <p><input type="radio"/> Jason Valle LIB</p>
	<p>COMMISSIONER OF AGRICULTURE (Vote for One)</p> <p><input type="radio"/> Polly Rylander REP</p> <p><input type="radio"/> Roberto Aron DEM</p>	<p>COUNTY TAX ASSESSOR (Vote for One)</p> <p><input type="radio"/> Howard Grady IND</p> <p><input type="radio"/> Randy H. Clemons CON</p>
<b>PRESIDENT AND VICE PRESIDENT</b>	<b>NONPARTISAN</b>	
<p>PRESIDENT AND VICE PRESIDENT (Vote for One)</p> <p><input type="radio"/> Gordon Bearce REP</p> <p><input type="radio"/> Nathan Maclean REP</p> <p><input type="radio"/> Vernon Stanley Albury DEM</p> <p><input type="radio"/> Richard Rigby DEM</p> <p><input type="radio"/> Janette Froman LIB</p> <p><input type="radio"/> Chris Aponte LIB</p>	<p>JUSTICE OF THE PEACE (Vote for One)</p> <p><input type="radio"/> Deborah Kamps</p> <p><input type="radio"/> Clyde Gayton Jr.</p>	
<b>CONGRESSIONAL</b>	<b>PROPOSITIONS</b>	
<p>UNITED STATES SENATOR (Vote for One)</p> <p><input type="radio"/> Cecile Cadieux REP</p> <p><input type="radio"/> Fern Brzezinski DEM</p> <p><input type="radio"/> Corey Dery IND</p>	<p>PROPOSITION 1</p> <p>Without raising taxes and in order to pay for public safety, public works, parks and recreation, health care, libraries, and other essential services, shall Harris County and the City of Houston be authorized to retain and spend all city and county tax revenues in excess of the constitutional limitation on total city and county fiscal year spending for ten fiscal years beginning with the 2011 fiscal year, and to retain and spend an amount of city and tax revenues in excess of such limitation for the 2020 fiscal year and for each succeeding fiscal year up to the excess city and county revenue cap, as defined by this measure?</p> <p><input type="radio"/> YES</p> <p><input type="radio"/> NO</p>	
<p>STATE SENATOR (Vote for One)</p> <p><input type="radio"/> Ricardo Nigro REP</p> <p><input type="radio"/> Wesley Steven Millette DEM</p>		
<p>STATE REPRESENTATIVE DISTRICT 134 (Vote for One)</p> <p><input type="radio"/> Petra Bencomo REP</p> <p><input type="radio"/> Susanne Rael DEM</p>		
<p>GOVERNOR (Vote for One)</p> <p><input type="radio"/> Glen Travis Lozier REP</p> <p><input type="radio"/> Rick Stickle DEM</p> <p><input type="radio"/> Maurice Humble IND</p>		
<p>MEMBER STATE BOARD OF EDUCATION DISTRICT 2 (Vote for One)</p> <p><input type="radio"/> Peter Varga REP</p> <p><input type="radio"/> Mark Barber DEM</p>		
<p>LIEUTENANT GOVERNOR (Vote for One)</p> <p><input type="radio"/> Shane Terrio REP</p> <p><input type="radio"/> Cassie Principe DEM</p>		
	<p>PRESIDING JUDGE TEXAS SUPREME COURT PLACE 3 (Vote for One)</p> <p><input type="radio"/> Tim Grasty DEM</p>	
	<p>PRESIDING JUDGE COURT OF CRIMINAL APPEALS, PLACE 2 (Vote for One)</p> <p><input type="radio"/> Dan Plouffe REP</p> <p><input type="radio"/> Derrick Melgar DEM</p>	
VOTE BOTH SIDES OF BALLOT		



## Appendix C2

Figure C2. The back of the paper-style bubble ballot found in Figure C1.

PROPOSITIONS		
PROPOSITION 2	PROPOSITION 4	PROPOSITION 6
<p>Shall the Charter of Harris County be amended to authorize the City Council to review and approve certain intergovernmental agreements and revenue contracts entered into by the City; to permit the City Council to establish its meeting schedule by ordinance; to clarify the circumstances in which the City Council may act by ordinance or resolution; to permit the City Council to adopt by ordinance procedures for the formation and administration of special assessment districts; to permit excused absences of council members for reasons other than sickness; and to make other conforming amendments related thereto in order to eliminate redundant or obsolete provisions of the charter?</p> <p><input type="radio"/> YES <input type="radio"/> NO</p>	<p>Shall there be an amendment to the Texas revised statutes concerning renewable energy standards for large providers of retail electric service, and, in connection therewith, defining eligible renewable energy resources to include solar, wind, geothermal, small hydroelectricity, and hydrogen fuel cells; requiring that a percentage of retail electricity sales be derived from renewable sources, beginning with 3% in the year 2011 and increasing to 10% by 2021; requiring utilities to offer consumers a rebate of \$2.00 per watt and other incentives for solar electric generation; providing incentives for utilities to invest in renewable energy resources that provide net economic benefits to customers; limiting the retail rate impact of renewable energy resources to 50 cents per month for residential customers; requiring public utilities commission rules to establish major aspects of the measure; prohibiting utilities from using condemnation or eminent domain to acquire land for generating facilities used to meet the standards; requiring utilities with requirements contracts to address shortfalls from the standards; and specifying election procedures by which the customers of a utility may opt out of the requirements of the amendment?</p> <p><input type="radio"/> YES <input type="radio"/> NO</p>	<p>Shall the Charter of Harris County concerning the powers of the City Council be amended in regard to the sale of city-owned property, to require Council approval for the sale of personal property valued at \$500,000 or more, and to clarify language requiring Council approval of any sale of real property?</p> <p><input type="radio"/> YES <input type="radio"/> NO</p>
<p>PROPOSITION 3</p> <p>Shall there be an amendment to the Texas constitution concerning recovery of damages relating to construction of real property improvements, and, in connection therewith, prohibiting laws that limit or impair a property owner's right to recover damages caused by a failure to construct an improvement in a good and workmanlike manner; defining "good and workmanlike manner" to include construction that is suitable for its intended purposes; and permitting exceptions for laws that limit punitive damages, afford governmental immunity, or impose time limits of specified minimum lengths on filing lawsuits?</p> <p><input type="radio"/> YES <input type="radio"/> NO</p>	<p>PROPOSITION 5</p> <p>Shall there be an amendment to the Texas constitution concerning election day voter registration, and, in connection therewith, allowing an eligible citizen to register and vote on any day that a vote may be cast in any election beginning on January 1, 2011; specifying election day voter registration locations; specifying that an eligible citizen who registers to vote on election day shall register in person and present a current and valid Texas driver's license or state identification card or other approved documentation; and directing the Texas general assembly, in implementing election day voter registration, to adopt necessary protections against election fraud?</p> <p><input type="radio"/> YES <input type="radio"/> NO</p>	
VOTE BOTH SIDES OF BALLOT		

## Appendix D1

Primarily Democratic slate. Seventy-four percent (or 14) of the 19 partisan candidates are Democratic.

Please vote for the following candidates and propositions on each ballot.

**Straight Party Voting:**  
Democratic Party

**President And Vice President:**  
Vernon Stanley Albury (D)  
(VP - Richard Rigby)

**United States Senator:**  
Fern Brzezinski (D)

**Representative in Congress:**  
Pedro Brouse (R)

**Governor:**  
Rick Stickles (D)

**Lieutenant Governor:**  
Cassie Principe (D)

**Attorney General:**  
Rick Organ (D)

**Comptroller of Public Accounts:**  
Greg Converse (D)

**Commissioner of General Land Office:**  
Elise Ellzey (D)

**Commissioner of Agriculture:**  
Roberto Aron (D)

**Railroad Commissioner:**  
Zachary Minick (D)

**State Senator:**  
Ricardo Nigro (R)

**State Representative District 134:**  
Susanne Rael (D)

**Member State Board of Education District 2:**  
Mark Barber (D)

**Presiding Judge Texas Supreme Court Place 3:**  
Tim Grasty (D)

**Presiding Judge Court of Criminal Appeals Place 2:**  
Dan Plouffe (R)

**District Attorney:**  
Jennifer A. Lundeed (D)

**County Treasurer:**  
Gordan Kallas (D)

**Sheriff:**  
Jason Valle (LIB)

**County Tax Assessor:**  
Randy H. Clemons (CON)

**Justice of the Peace:**  
Clyde Gayton Jr.

**County Judge:**  
Lewis Shine

**Proposition 1:**  
No

**Proposition 2:**  
Yes

**Proposition 3:**  
Yes

**Proposition 4:**  
Yes

**Proposition 5:**  
No

**Proposition 6:**  
Yes

## Appendix D2

Primarily Republican slate. Seventy-four percent (or 14) of the 19 partisan candidates are Republican.

Please vote for the following candidates and propositions on each ballot.

**Straight Party Voting:**  
Republican Party

**President And Vice President:**  
Gordon Bearce (R)  
(VP - Nathan Maclean)

**United States Senator:**  
Cecile Cadieux (R)

**Representative in Congress:**  
Pedro Brouse (R)

**Governor:**  
Glen Travis Lozier (R)

**Lieutenant Governor:**  
Cassie Principe (D)

**Attorney General:**  
Tim Speight (R)

**Comptroller of Public Accounts:**  
Greg Converse (D)

**Commissioner of General Land Office:**  
Sam Saddler (R)

**Commissioner of Agriculture:**  
Polly Rylander (R)

**Railroad Commissioner:**  
Jillian Balas (R)

**State Senator:**  
Ricardo Nigro (R)

**State Representative District 134:**  
Petra Bencomo (R)

**Member State Board of Education District 2:**  
Peter Varga (R)

**Presiding Judge Texas Supreme Court Place 3:**  
Tim Grasty (D)

**Presiding Judge Court of Criminal Appeals Place 2:**  
Dan Plouffee (R)

**District Attorney:**  
Corey Behnke (R)

**County Treasurer:**  
Dean Caffee (R)

**Sheriff:**  
Stanley Saari (GP)

**County Tax Assessor:**  
Howard Grady (IND)

**Justice of the Peace:**  
Deborah Kamps

**County Judge:**  
Dan Atchley

**Proposition 1:**  
Yes

**Proposition 2:**  
No

**Proposition 3:**  
No

**Proposition 4:**  
Yes

**Proposition 5:**  
Yes

**Proposition 6:**  
Yes

## Appendix E

The voter guide given to subjects.

**TEXAS  
2009 GENERAL ELECTION  
VOTER GUIDE**

**NOTE TO PARTICIPANTS:** THIS VOTER GUIDE HAS BEEN COMPILED SOLELY FOR RESEARCH PURPOSES AND IS NOT INTENDED TO REFLECT THE VIEWS OF RICE UNIVERSITY OR OF THE RESEARCHERS ASSOCIATED WITH THIS STUDY. IT ALSO IS NOT INTENDED TO DEPICT REAL PEOPLE.

**TEXAS GENERAL ELECTION  
TUESDAY, NOVEMBER 4, 2009  
POLLS OPEN 7:00a.m. to 7:00p.m.**

## **CANDIDATES FOR PRESIDENT/ VICE PRESIDENT**

### **Questions:**

- 1. Do you support the 9-11 Commission's recommendations regarding reorganization of Congressional Intelligence Committees?**
- 2. How do you propose to reduce the federal deficit?**
- 3. What role should the federal government play in providing adequate health care for all Americans?**

### **Gordon Bearce, Republican (Nathan Maclean)**

Background: BA Stanford University 1971; MBA Harvard University 1974. 14 years of service in the Navy Reserve. Governor of Missouri since 1992.

1. Yes. Currently, numerous committees oversee the many different areas of intelligence needed to make our homeland secure. We need to follow the 9-11 Commission's recommendations to help coordinate these committees and reorganize them so they can operate and pass along information efficiently.
  2. In order to reduce the federal deficit, we must have long-term fiscal discipline. We should not borrow from Social Security or Medicare or any other programs, rather simply reduce government spending in other areas, such as areas where supplemental appropriations are routinely passed. I will not raise taxes, however tax cuts that solely benefited the wealthy should be repealed, as this simple act will help reduce the government deficit by over 1 trillion dollars.
  3. We should take a strong step forward in helping all Americans get the adequate health care they deserve. We should expand Medicare and Medicaid to help cover those that are currently in need of quality health care, but aren't getting it. Everyone has a right to quality health care, and under my watch, I will ensure all Americans get what he or she deserves.
- 

### **Vernon Stanley Albury, Democrat (Richard Rigby)**

Background: BA Princeton University 1967; JD Yale University 1970. District Attorney 1972-1982; Member of US House of Representatives since 1985.

1. Yes. We should restructure Congressional Intelligence Committees to help manage intelligence in a more expedient and precise manner, however complete reorganization will not help. We must restructure these committees and redefine their purposes, rather than simply removing some and adding power to others. This is a careful process that we need to take, allowing the Congressional Committees to cooperate and allow the Department of Homeland Security to oversee this intelligence.
2. I propose to reduce the federal deficit by controlling rampant supplemental appropriations bills. Too many congressmen and women are too concerned about giving their own districts money rather than looking out for the good of the entire nation. I will veto any supplemental appropriations bills that do not have a supermajority of the house behind them, and encourage fiscal discipline wherever I can.
3. The federal government should help provide adequate health care for all Americans. We should restructure Medicare and Medicaid so that they operate more efficiently and give Americans the medical coverage they need. Providing adequate health care does not mean simply pumping money into these programs—we need to ensure that those in need get what they need, and not be short-changed by the bureaucracy.

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**Janette Froman, Libertarian**  
**(Chris Aponte)**

Background: BS Texas A&M 1980; JD University of Houston Law School 1984; Prior Candidate for Texas House of Representatives and Texas State Senate.

1. No. No amount of reorganization can fix the mess that the past few administrations have created. We need to rebuild our intelligence committees from the ground up—and establish term limits in the House so that those responsible for this disorganization are out of office.
  2. I plan to fix the federal deficit by immediately cutting the Department of Defense's budget drastically. Their expenditures account for a large plurality of our government spending, and their rampant use of government funds needs to be curtailed.
  3. None. It is not the federal government's responsibility to provide health care to all Americans. Too many take advantage of the system, and this problem has helped to exacerbate our federal deficit. Medicare and Medicaid ought to be repealed.
- 

**CANDIDATES FOR US SENATOR**

**Questions:**

1. What changes, if any, need to be implemented in US free-trade policies?
  2. A number of criticisms have been aimed at the Medicare prescription coverage program. What modifications, if any, would you support?
  3. What, if anything, would you change about “No Child Left Behind”?
- 

**Cecile Cadieux, Republican**

Background: JD, University of Texas 1985 – LLM in Taxation, University of Florida 1989, Authored or co-authored 14 professional articles; Married, one child

1. Chinese goods should be tariffed to cause their prices to be what they would be but for attachment of the yuan to the dollar. (China's currency has been attached to the dollar since 1995.) Attachment has prevented US manufacturers from being able to compete, thus causing loss of U.S. jobs.
  2. The Program should be repealed and HHS should be directed to negotiate with the pharmaceutical companies to provide our seniors with the prices that are charged to western European and Canadian seniors. Catastrophic coverage should exist, but it should be funded by small Medicare Part A/B benefit reduction.
  3. Test scores have not been improved since the federal Department of Education was created in 1979. Three levels of government is enough. Debts and unfunded liabilities of the federal government total \$330,000 per full-time worker. I would dismantle the DOE.
- 

**Fern Brzezinski, Democrat**

Background: I am a businesswoman, family woman, and public servant. I have been a business and political leader in Georgia for over 30 years, and I currently serve in the US House of Representatives. I am proud of my family, and I have 3 children and 4 grandchildren.

1. Our biggest challenge to our Free Trade Agreements is to make sure US Trade Representatives enforce the rights of US companies through the World Trade Organization.
2. The first phase of the Medicare Modernization Act has gone very well with the implementation of the Discount Drug Cards for seniors. The main provisions of the Act do not take effect until 2011. Any modification should only be considered after implementation in 2011.
3. As an original coauthor of NCLB, we are constantly monitoring its progress. We have already modified provision for testing of special education children and non-English speaking children. We must refine the "highly qualified teacher" provision, particularly in Special Education instruction.

### **Corey Dery, Independent**

Background: I have a BA in Political Science from Yale University, and a JD from Duke University School of Law. I have served as a law clerk for the Texas Court of Appeals.

1. Trade agreements must guarantee that the US can act to protect workers from rapid changes in the international marketplace. I will carefully evaluate all trade agreements to ensure that they adequately protect the internationally recognized rights of workers including the right to organize and collectively bargain.
2. The Bush Administration's prescription drug plan must be changed so that our senior citizens can obtain prescription drugs at an affordable price. We should permit the government to negotiate with drug companies for fair prices for Medicare beneficiaries. We should also allow the re-importation of cheaper prescription drugs from other countries.
3. High quality education for our children is critical to the future of our economy and will give us a skilled and competitive workforce. As a member of the House Education and Workforce Committee, I have fought to fully fund Head Start, No Child Left Behind, and other important education initiatives.

## **CANDIDATES FOR REPRESENTATIVE IN CONGRESS**

### **Questions:**

1. Do you support the 9-11 Commission's recommendations regarding reorganization of Congressional Intelligence Committees? Please explain.
2. What role should the federal government play in providing adequate health care for all Americans?
3. How would you address the growing federal deficit?:
4. What is your position on renewing and/or expanding the US Patriot Act?

### **Pedro Brouse, Republican**

Background: Education: B.A. Accounting, University of Texas, Austin; Experience: Auditor/accountant-Texas Department of Public Welfare (1973-1977), US Navy (1979-1983), Initial Rentokil USA, Inc (1983-2004)

1. Congress should play a greater role in oversight.

2. I am very concerned about inadequate planning for seniors and veterans. Millions of Texas families are without health insurance...it is tragic that so many children are left out and so many Americans of the "greatest generation"—seniors and veterans, most of whom are over 80 years old—are left behind, when all of us in the younger generations owe the World War II generation so much.

3. Inadequate management of the budget and the economy has created this problem for our future. I am proposing a more responsible foreign/defense policy to address budgeting...and new legislation to address large/multi-nationals that "outsource" and go "offshore"...our renewed emphasis on economic development and lowering the tax burden on Americans who have the least income will help.

4. It should not have been renewed, but rather revised to accomplish cooperation within our US law enforcement system while respecting our cherished US Constitution and Bill of Rights...undermining our rights, liberties, and freedoms does not enhance security, it diminishes our great American democracy.

### **Robert Mettler, Democrat**

Background: Education: Graduate, Senior Executive Fellows Program, Harvard University. J.D., St. Mary's Law School. B.S., Trinity University; Experience: Chief, Terrorism and National Security, US Attorney's Office; Bush-Cheney transition team member; Attorney General Greg Abbott transition team member; Deputy Attorney General for Criminal Justice under John Cornyn; Trial attorney, Public Integrity Section, US DOJ

1. I support the Commission's recommendations on Congressional Intelligence Committees. Today, Congressional Intelligence gathering is spread over several committees making it more difficult for Congressional leaders to address the key issues that will define and determine our success in the war on terror. By consolidating the Committee structure, we help create one area where key security issues can be fully and completely examined.

2. The best possible health care system will be driven by consumer choice; where patients and physicians can make decisions about appropriate care. Our current system, both public (Medicare/Medicaid) and private (HMOs), limits choice and drives up costs and must be reformed. Additionally, we must pass legislation to end runaway litigation that forces doctors to practice "defensive medicine," increasing costs and hampering development of cutting edge procedures and medicines while depriving Americans of the best health care possible.

3. Federal spending is driven by government bureaucracies and wasteful programs that are systematically funded, year after year, through massive "omnibus" spending bills which virtually no one actually reads, especially those in Congress. I strongly favor a Federal Agency "Sunset" Law so that each bureaucracy and every single funded program must justify its existence. This system in Texas has saved millions of dollars, and it is time we made Washington more closely account for every expenditure.

4. No matter the threat, America must protect our civil liberties enshrined in the Bill of Rights. If we curtail civil liberties to fight terrorism, the terrorists win. However, our laws must keep up with the times, allowing us to investigate, disrupt and prosecute terrorists before they destroy critical infrastructures. I support renewing the Patriot Act because it does just that: it takes existing legal principles and retrofits them to address the particular challenge of terrorism.

## **CANDIDATES FOR GOVERNOR**

### **Questions:**



1. What is your first priority as Governor?
  2. How would your budget reflect support for environmental measures?
  3. How would you improve and finance transportation?
- 

#### **Glen Travis Lozier, Republican**

Biography: BA, Texas 1977; JD Georgetown 1980; As Attorney General, I have focused on the security of Texans, including domestic violence and protecting children. A former state and federal prosecutor, I have also served as Secretary of Public Safety.

1. As Governor, I want to create a Texas filled with opportunity. To do this, we must have better pay for better teachers so that our children get a better education. We must empower Texans to have more control over their healthcare options through health savings accounts and long term care incentives. And I will continue my efforts to combat domestic violence and gang activity.
  2. As Governor, I will pursue responsible environmental policies to benefit future generations by employing a stewardship based model for governing our natural resources and environmental assets, emphasizing collaboration and citizen involvement; recommitting our state to pollution prevention; and creating an environmental enforcement team to target those who harm the environment through purposeful or grossly negligent actions.
  3. As Governor, I will lead the way to innovative transportation solutions that empower Texans and work to reduce congestion by creating Regional Transportation Authorities to develop and implement solutions to regional transportation problems. I will use prioritize the use of technology on our roadways to make them less congested.
- 

#### **Rick Stickles, Democrat**

Biography: BS, Rice 1975; JD Texas 1980; My life has been shaped by my parents, family, children, faith, and my community. Working in my father's firm, as a civil rights lawyer, and later as Mayor and Lt. Governor taught me to value strong communities, equal opportunity, hard work, fiscal discipline and finding common ground.

1. Education. Our teachers deserve better pay, and our schools can be made better simply by an emphasis on education in our state budget. I will raise standards and expect nothing less than excellence in the classroom and in recruiting the nation's best teachers.
  2. We owe it to our children to leave them this beautiful state as we found it. Budget reform will allow us to make historic investments in environmental programs. We should value clean air and a clean environment, and through budget reform, we can achieve these.
  3. We need a new approach to reduce traffic. We cannot simply tax and pave our way out of the problem. I will work to fix the hole in the transportation bucket by vetoing any diversion of Transportation funds. I will create incentives to better connect land-use and transportation decisions to reduce traffic and sprawl.
- 

#### **Maurice Humble, Independent**

Biography: I have a BA in Economics and a JD from Texas; I am currently serving my fourth term in the Texas State Senate, and I chair the Education and Health Committee. I value my family and my three daughters, and the community I live and work in.

1. My first priority as governor would be to implement a comprehensive solution to the state's transportation problems. The state also has several other important issues that need to be addressed—including education, tax reform, and health care.
  2. As a state senator, I have been a strong advocate for the environment. I have worked to provide \$15 million each year for air quality improvement. I will continue to fight for environmental improvement across the great state of Texas.
  3. We have a crisis on our hands that needs to be fixed—I am the only gubernatorial candidate willing to recognize this fact. We need a radical approach to fixing our transportation problems, including bolstering our transportation budget and tackling the issue at the state level, rather than with regional authorities.
- 

## **CANDIDATES FOR LIEUTENANT GOVERNOR**

### **Questions:**

- 1. How do you see yourself functioning in the role of Lieutenant Governor?:**
  - 2. How would you influence the dynamics of the legislative process?:**
  - 3. What would you like the citizens of Texas to know about you?:**
- 

### **Shane Terrio, Republican**

Biography: Occupation: Consultant with Riggs, Counselman, Michaels, and Downes, a Houston-based insurance agency. Education: BA, Political Science, Texas, 1979. Experience: Texas State Senate 1996-present

1. The Lieutenant Governor's statutory responsibilities include presiding over the Senate of Texas and chairing a number of state commissions. With ten years experience in the State Senate, I can easily fulfill these responsibilities. I also look forward to working with others to take a leadership role in a number of state programs, including efforts to reform Medicaid and make quality health care available to every Texan.
  2. During my ten years in the State Senate I have built strong personal relationships with other legislators from both political parties. I have been recognized as one of the most effective members, and I have proven my ability to work with people who hold competing views on important issues and fashion sound public policies for Texas. I will continue to do that as Lieutenant Governor.
  3. I have the background, knowledge, and experience in state government that is necessary to help lead Texas. I have also articulated a clear vision for the future of Texas—a vision that creates a pro-business environment and a commitment to invest the resources that economic growth generates in the core responsibilities of state government including transportation, education, public safety, healthcare, and responsible efforts to protect our important natural resources.
- 

### **Cassie Principe, Democrat**

Biography: I've served Texas for 12 years in the legislature (both in the Senate and the House). I have a BA in Political Science from the University of Texas. I am a small business owner, and I am proud of my two grown children and my one grandchild.

1. The Lieutenant Governor presides over the Texas Senate. I will work closely with the Senate to continue the progress and build on the fiscal responsibility of the previous administration.

2. I believe that governing is not about finding fault but finding solutions. During my legislative career, I have proven the ability to reach out to those across the aisle to seek consensus on the important issues facing Texas, issues like education, transportation, the wise use of environmental resources, affordable health care insurance, and building a culture of freedom and personal responsibility.

3. I believe government must treat all its citizens with fairness, dignity and respect. My philosophy on government is that a representative has an obligation to listen, to have an open door for all people—including those who agree with and those who do not. I have fought for twenty years in Texas to build better communities, make our highways safer, provide tax relief and broaden educational opportunity, I have consistently been a voice for those who cannot afford to hire lobbyists; I consider myself “the people’s lobbyist”. This is how I approached my service on behalf of Texans at the federal, state and local level. I am eager to bring this effective experience to the job of being your Lieutenant Governor.

## **CANDIDATES FOR ATTORNEY GENERAL**

### **Questions:**

**1. What do you want to accomplish as Attorney General?:**

**2. What potential do you view in this office?:**

### **Tim Speight, Republican**

Background: I am a retired U.S. Army officer, a former prosecutor, and a 14 year member of the Texas House of Representatives. I have earned degrees in Business, Management, Public Policy, and the Juris doctor.

1. I will crack down on violent sexual predators who target our children by enacting much tougher penalties for sex offenders, revamping the sex offender registry, requiring sex predators to register with State Police before being released from prison, monitoring sex offenders with GPS tracking systems, and other legal reforms. Other key priorities include strengthening efforts to protect Texans from identity theft, protecting Texas from terrorist threats, fighting drugs and gangs, implementing a family court system, protecting private property rights, and protecting Texas’ pro-jobs environment by working to end lawsuit abuse and reducing regulations.

2. Our next Attorney General must have the experience to get the job done for our citizens from day one. As an army veteran who served in Europe during the Cold War, a local prosecutor who put murders, child molesters, and rapists behind bars, a proven legislator who played a key role in abolishing parole for violent criminals and passing historic welfare reform, I bring the experience we need to this important office.

### **Rick Organ, Democrat**

Background: BA, Texas, 1970; JD, Texas 1977; I have previously served the public as a District Attorney, and I have served in the Texas House of Representatives for 10 years.

1. In this post-9/11 world, I believe the next attorney general's top priority must be keeping Texas safe and secure. I will use the office to advocate for public safety and to pursue my security agenda. But the AG is also responsible for providing the best legal advice to the governor and legislature, and I believe that should be done promptly and without a partisan political agenda.

2. Texas needs an attorney general who is an advocate for all the people, not just the powerful. I believe the office can be a powerful force for reducing prescription drug prices, consumer fraud and identity theft. Also, I plan to work with the Department of Social Services to close the \$2 billion child support gap.

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## **CANDIDATES FOR COMPTROLLER OF PUBLIC ACCOUNTS**

### **Question:**

**1. What will you do to “provide a window into Texas government”?**

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#### **Therese Gustin, Independent**

Training and Experience: I have a BA in Accounting from the University of Houston, and I am a Certified Public Accountant. I have worked in the Texas Comptroller's office for the past 15 years, and I am confident I can run this office better as the Comptroller.

1. If elected, I will work to audit and ensure that every Texas agency is spending money like it should and is being held accountable. I would make sure that government regulations are based on common-sense and that every agency is abiding by them.

---

#### **Greg Converse, Democrat**

Training and Experience: I am a Certified Public Account, and I received a BA in Accounting from the University of Texas, and an MBA from Rice University. I have worked for the Texas Treasury Department for the past 10 years.

1. The Comptroller's office should shed light on all the other bureaucracy and government in Texas, ensuring that everything is working properly. If elected, I will help the Texas government to run a smaller, more efficient operation, ensuring that no taxpayer's money is misused.

---

## **CANDIDATES FOR COMMISSIONER OF GENERAL LAND OFFICE**

### **Question:**

**1. What will you do as Commissioner to uphold the General Land Office's responsibilities to protect natural resources?**

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#### **Sam Saddler, Republican**

Training and Experience: BS in Geology from Texas A&M in 1981. I have worked for the Texas General Land Office for the past 20 years. I am proud to work for the oldest state agency in Texas, and I have experience with all the intricacies of this office, therefore I believe I am qualified to be Commissioner.

1. One of the General Land Office's duties is to protect the natural resources that belong to our state. I will work closely with the Office of the Railroad Commission to ensure that our state's oil and gas deposits are taken care of. I will ensure that Texas' interests are at heart in these decisions, not local business interests.

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**Elise Ellzey, Democrat**

Training and Experience: I have a BS in Petroleum Engineering from Louisiana State University. I have worked for Exxon as an engineer, and I have worked for the Texas Railroad Commission.

1. I will ensure that our natural resources are protected and that all the proper proceeds are given to the Permanent School Fund, to ensure that our children get the monies they deserve from drilling rights in this state. I will ensure that all contracts are handled appropriately.

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## **CANDIDATES FOR COMMISSIONER OF AGRICULTURE**

**Question:**

**1. What can be done to revitalize Texas' agriculture industry?**

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**Polly Rylander, Republican**

Training and Experience: I have served two terms in the Texas House of Representatives, and I have a BA from the University of Houston, and an MBA from the University of Texas. I grew up on a farm, and I have worked within the agriculture industry for the past 10 years.

1. Marketing for Texas' agriculture products tops my list of priorities as Commissioner of Agriculture. If elected, I plan to help revitalize our extensive agriculture industry by promoting our products nationwide.

---

**Roberto Aron, Democrat**

Training and Experience: BS, Texas A&M 1975; MBA University of Houston, 1981; I have worked closely with the agriculture industry for the past 20 years, including working in New York in the financial markets.

1. With the Texas Department of Agriculture backing our state's industry, there is no need to revitalize it. Texas has one of the strongest agriculture exports of any state, and, if elected, I plan to help continue making Texas' agriculture industry successful.

---

## **CANDIDATES FOR RAILROAD COMMISSIONER**

**Questions:**

**1. How would you prioritize the goals of the Railroad Commission's Strategic Plan for 2008-2012 in light of limited funding?**

**2. How do you propose to meet the Railroad Commission's stated responsibility for supporting research, education, training, and marketing of clean-burning alternative fuels?**

---

### **Jillian Balas, Republican**

Training and Experience: Geologist, petroleum geophysicist and energy attorney. Texas Railroad Commissioner since February 2006. Elected Chairman by colleagues. Former petroleum geophysicist for Amoco Production. Energy attorney at the General Land Office. Assistant Abilene city attorney; political science and legal studies instructor, Hardin-Simmons University. Elected Abilene City Councilman and Taylor County Judge.

1. The top goal of the Texas Railroad Commission is to strengthen the safety and productivity of the Texas energy industry. In this era of record high oil prices, we must reduce dependence on foreign oil, increase responsible energy production, and promote conservation and renewable energies such as wind, fuel cell and biomass energy. Since joining the Railroad Commission, I have helped reduce the agency budget, while improving safety and environmental quality in the energy sector.

2. As Chairman of the Texas Energy Planning Council, I worked hard to promote alternative energy sources. I have visited Texas wind farms and emerging technologies which promise to reduce dependence on foreign energy and improve environmental quality. My goal is to ensure emerging energy technologies are conceived and built in Texas, taking advantage of our vast expertise and infrastructure. The Railroad Commission also uses grants funds to promote cleaner burning fuels, such as propane.

---

### **Zachary Minick, Democrat**

Training and Experience: Born and reared in west Texas. Degrees from Baylor, Southwestern Seminary, Yale, and the University of Illinois. Experienced in personal business development. Experienced in formulation, support, and implementation of public policy at the local, state, and national level. Experience in the negotiation and management of mineral properties.

1. The Commission's Strategic Plan for 2008-2012 indicates it "does not expect significant changes in its mission, strategies, or goals during the next five years." The development of our oil and gas resources is primary. Safety and environmental concerns are secondary. Scant attention is given to alternative energy. No attention is given to monitoring intrastate natural gas transmission. The public's growing concern about the relationship between energy development and the environment needs a higher priority.

2. There may be an inherent conflict of interest in making a Commission devoted to the development of oil, gas and coal resources responsible for developing "clean-burning alternative fuels." A much broader range of knowledge, concern, and experience as well as a broader range of interests need to be involved. If this project is to remain the Commission's responsibility, it would have to greatly expand its knowledge base and staff.

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## **CANDIDATES FOR STATE SENATOR**

### **Questions:**

- 1. What solutions would you propose to balance the state budget?**
  - 2. Should state funding for Public Education be expanded?**
  - 3. How do you propose to fund healthcare for the large number of uninsured in Texas?**
-

### **Ricardo Nigro, Republican**

**Background:** Education: B.B.A. from University of Texas-Austin, J.D. from South Texas College of Law; **Experience:** State Senator 2006-present; Travis County Commissioner 2001-2004; former Chief Clerk, Senate Committee on County Affairs; former Chief Clerk, Senate Joint Interim Committee on Regional Issues; former member of the Texas Open Records Steering Committee; former General Counsel for Senator Jeff Wentworth, and the Senate Interim Committee on Public Information.

1. I am a fiscal conservative and believe general government should be smaller and smarter. Last session we had a \$10 billion budget deficit. The deficit was a spending problem, not a revenue problem. Citizens should not be asked to pay more in taxes due to the deficit. Government should do what families do: set priorities and live within a budget. That's why I helped pass a balanced budget without a tax increase.
  2. Public Education is my top priority. State funding should be increased to improve educational standards and to abolish the need for the current Robin Hood school finance system. Even in the face of a \$10 billion budget deficit last session, I supported \$1.2 billion of additional investment in public schools. I also supported amendments to increase investment in textbooks, pre-kindergarten and kindergarten classes, and teacher retirement benefits.
  3. It is important that the legislature create opportunities for more affordable and flexible market alternatives for health care coverage. Last session we created "Consumer Choice Health Plans" that will allow many currently uninsured Texas men, women and children to get the health care coverage that they could not afford prior to the passage of this legislation. Under this law, many small businesses will be able to provide coverage to employees and their families.
- 

### **Wesley Steven Millette, Democrat**

**Background:** Education: I have a Masters in Social Work and law degree from the University of Texas, and a B.A. in political science from Queens College. **Experience:** My experience includes seven terms in the Texas House, passing over 150 bills including the Landlord-Tenant Security Devices, Indoor Air Quality, Nursing Home Reform, and Mold Remediation Licensure acts. I served on the Public Health Committee, Human Services Committee, and Select Committee on Child Welfare and Foster.

1. To balance the budget, I'd close the loophole in the corporate franchise tax so limited liability partnerships pay their fair share; expand the sales tax base to include certain services; increase the cigarette tax, and/or amend the Texas Constitution to allow imposing a statewide property tax. I'd consider instituting a state income tax, if linked to restructuring our tax system so property and sales taxes are significantly reduced.
  2. Yes. The state's contribution to public education has fallen below 40%, resulting in an increased reliance on local property taxes. This situation led Judge Dietz to rule that our system doesn't provide an "adequate" education, since almost half our school children under-perform. The ruling has been interpreted to mean that the state must come up with the substantial new money over and above the funds needed to offset a reduction in property taxes.
  3. To fund health care for the large number of uninsured in Texas, I'd restore the cuts to the Children's Health Insurance Program and Medicaid, thus maximizing the receipt of federal matching funds. I'd institute a one-dollar increase in the cigarette tax and dedicate the revenues to health services. I'd close the loophole in the corporate franchise tax so limited liability partnerships pay their fair share and dedicate a portion of the revenues to health care.
-

## **CANDIDATES FOR STATE REPRESENTATIVE**

### **Questions:**

- 1. Do you believe that changes or improvement should be made in the Texas public health care system?**
  - 2. Do you believe that additional revenue sources are needed to meet the needs of Texas residents? If so, please identify possible sources.**
  - 3. Given Texas' low national rating on education performance, what should be done to raise our standing?**
- 

### **Petra Bencomo, Republican**

Qualifications: I received my B.A. from the University of Houston and J.D. from the University of Texas. I am an attorney at ConocoPhillips. I have worked three continuous legislative sessions (2001-2007). I have also served as Rep. Farrar's Chief of Staff and Rep. Moreno's campaign manager in the 2003 Democratic Primary.

1. We need increased funding for clinics that provide preventive healthcare. This would help relieve the overcrowding in emergency rooms and prevent hospital stays. We also need to increasing funding for children's healthcare programs, such as CHIP. Additionally, the state should use its purchasing power to reduce prescription costs.
  2. Texas needs a fair, broad based business tax that reflects modern economy. We need to close the business tax loopholes and ensure that all companies pay equally. Additional revenue sources should not target those least able to pay, such as a regressive sales tax. We need a fair and equitable tax revenue system
  3. Our Legislature needs to answer the funding needs highlighted by Judge Dietz. We need more funding for our schools to ensure that our students have the resources they need to learn and teachers have the resources they need to teach. We also need a teacher pay raise in order to recruit and retain qualified teachers.
- 

### **Susanne Rael, Democrat**

Qualifications: I will use my 35 years of legal, legislative and judicial experienced leadership and proven service as a former judge for city of Houston-Harris County, attorney, certified mediator and arbitrator, wife and mother, to make our schools better, our neighborhoods safer and improve our economy for families.

1. Every system should be reviewed constantly to maximize the resources being used to see how and where more efficiency for the delivery of services can be accomplished. I will continue to work with the legislature to ensure Texas' public health care system provides the care and services required by all Texans while recognizing the financial requirements of such a system.
  2. My commitment is to the families of this District; to ensure everyone has an opportunity to receive a quality education, affordable healthcare, and to work to the fulfillment of the American Dream. As your State Representative, I will continue to seek the most effective and efficient manner to make these opportunities available to the families of this District.
  3. In the next legislative session, I will continue to use my years of legislative experience to ensure all children have the resources necessary to receive a quality education at the highest level and our school teachers are paid a reasonable salary for the hard work. I will work with other legislators to ensure this effort is achieved.
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## **CANDIDATES FOR MEMBER, STATE BOARD OF EDUCATION, DISTRICT 2**

### **Questions:**

- 1. How can schools effectively recruit and retain quality teachers?**
  - 2. What can be done about schools that have been rated “Academically Unacceptable”?**
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### **Peter Varga, Republican**

Background: As a self-employed father of three, wife of a firefighter and Iraqi Freedom veteran, I am presently a UH Consumer Science/Teacher Certification applicant after earning an Associates Degree at HCCS. My 20 years of community service established the foundation for my commitment to a new direction for our schools.

1. Energetic recruitment and retention efforts should include an accelerated hiring timeline, active marketing campaigns, college and university partnerships, new teacher mentorship programs, professional development on classroom management, classroom routines and procedures, multicultural education, and lesson planning, paid summer orientations, maintain reduced classroom size, enforcement of disciplinary policies, placement of trained principals with management skills that promote teacher retention.
  2. Student learning turns around all school ratings. Children's learning is promoted through the learning style of each child. A high teacher-student interaction can raise the level of learning. One cohesive team of the faculty, staff and principal as the instructional leader and manager who is supported by strong parental and community groups can achieve a clearly defined shared vision of achievement.
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### **Mark Baber, Democrat**

Background: Director, Mayor's Citizens' Assistance Office (since 5/2003), Houston Parks and Recreation (1995-2003), Houston Community College (1987-1992); Precinct 105 Chairman, (since 1999), past president – Hawthorne Civic Club, Honors Diploma- Jeff Davis High School, A.A. Government – HCC, B.A. Political Science – University of Houston. Married seventeen years, father of three daughters.

1. Teachers are our most precious resource, so we must treat them as professionals and pay them like we are serious about quality education for our kids. We must both maintain standards and allow flexibility in teaching. We must let committed teachers teach what they know. We must provide quality environments where teachers want to teach and students want to study.
  2. Schools with extraordinary challenges require extraordinary resources and commitment. We must provide special incentives to attract the most qualified and talented educators and to provide the best equipment and buildings. The community's stakeholders must also be actively engaged in helping to do their part. Parents, local community and business leaders, all of us, can and must turn our schools around.
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## **CANDIDATES FOR PRESIDING JUDGE.**

### **TEXAS SUPREME COURT. PLACE 3**

**Questions:**

- 1. What do you think the community can do to assist the judiciary in making decisions that protect women, their children and the community against family violence?**
  - 2. The U.S. Supreme Court has decided to hear a Minnesota dispute over whether judicial candidates can discuss their positions on issues that might come before their courts. Would you welcome a ruling that allowed you to freely comment on these issues?**
  - 3. How could we strengthen communications with the legal system when family is dealing with multiple courts and proceedings?**
- 

**Tim Grasty, Democrat**

Training and Experience: I have practiced trial law since 1981. I have never been sanctioned. I represent individuals, businesses, hospitals and educational institutions. I am active in delivering legal services to the poor. I am a mediator. I serve on a hospital board and volunteer through church, schools, and youth organizations.

1. Personal involvement with, and financial support of, prevention programs, assistance efforts and shelters is critical. Many such entities work with the courts. Citizens must press the legislature for appropriate action to address these problems. The court benefits when citizens willingly serve as jurors. The courts are open, be there.
  2. No. Our government depends on objective, impartial and constitutionally constrained judges. Such a decision could overly politicize an already challenging selection process. Judges must decide each case on the facts and applicable law. The expression of opinions in the political context could suggest a predisposition or bias about certain cases.
  3. The current presiding court system could be changed to allow a single court to handle a matter from filing to final disposition. Regardless, each file should be accurately documented as to activity and action. The courts provide forms, which permit contemporaneous documentation. Judges should require attorneys to promptly complete filings.
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### **CANDIDATES FOR PRESIDING JUDGE. COURT OF CRIMINAL APPEALS. PLACE 2**

**Questions:**

- 1. Do you believe the composition of juries adequately and fairly reflects society at large? Why or why not?**
  - 2. What changes, if any would you support to assure that the rights of the legally indigent are adequately protected under current law and practice, particularly in death penalty cases?**
  - 3. While serving on the bench, do you believe you have a role in bringing important legal or judicial issues before the public or the legislature? Why or why not?**
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**Dan Plouffe, Republican**

Qualifications: Senior Judge, Texas Court of Criminal Appeals, 11 year member Associate Justice, Second Court of Appeals, 4 year member Board Certified in Criminal Law, Texas Board of Legal Specialization, Masters Degree-Judicial Process, University of Virginia School of Law Course Director- 2003 Advanced Criminal Law Seminar, State Bar of Texas

1. Since I have sat on the appellate bench for the past 16 years, I unfortunately have not had the experience to observe the jury selection process at the trial level. I do feel based upon the records on appeal involving jury selection that the trial courts are diligently enforcing the constitutional protections allotted to protect jurors.

2. In the last three sessions of the Texas Legislature, we have seen the enactment of the Texas Fair Defense Act and an amendment to the Texas Criminal Habeas Corpus Act to include Section 11.01, which covers representation of defendants in death penalty cases. I believe that both of these acts have gone a long way toward ensuring that indigent defendants are fairly and adequately represented, both at trial and on appeal.

3. Because the Texas Court of Criminal Appeals is in the best position to observe what are the current trends and issues affecting the criminal law, I feel that it is incumbent upon us to inform the legislature and the public of these matters and to hopefully help them fashion an adequate response.

#### **Derrick Melgar, Democrat**

Qualifications: I have practiced law for more than 20 years and have an extensive background in both civil and criminal trial work. As a part of my practice I have successfully argued cases before both The Supreme Court and The United States Court of Appeals for the Fifth Circuit.

1. Our right to a jury trial provides the most important protection we have against the abuse of power by the state. If the composition of the jury does not fairly reflect society, much of that protection is lost. Having picked many juries, I know that low income and minority Texans are not adequately represented in the jury pool. Remedying that requires both outreach to these communities and fair compensation for jury service.

2. Our state's failure to provide adequate representation to indigent defendants, particularly those in death penalty cases, is a national embarrassment. A statewide public defender's office should be established with adequate funding and competent attorneys to handle these cases. In addition Appellate Courts must be more aggressive in reviewing these cases to assure the defendant received adequate representation at trial.

3. While it is not a judge's job to legislate, they are in a unique position to recognize and advise on important legal and judicial issues facing the state. I would not hesitate to offer that expertise when appropriate and ethical.

### **CANDIDATES FOR DISTRICT ATTORNEY**

#### **Question:**

**1. What role should the District Attorney's office play in enforcing laws dealing with white-collar crime?**

**Corey Behnke, Republican**

Training and Experience: District Attorney-present; Criminal District Judge 12 years; Assistant District Attorney 8 years; Private Practice 4 years; Board Certified Criminal Law; Co-chair Governor's Anti-Crime Commission; Member Texas Crime Victims Institute Advisory Council; National Council on Violence Against Women; Governor's Advisory Board on Juvenile Justice; University of Texas Law School.

1. I have prioritized white-collar crime prosecution. As law-enforcement's leader in pursuing this crime, my DA investigators and attorneys lead investigations & prosecutions. My efforts have resulted in millions being returned to victims and elderly individuals swindled of retirement money or scammed through home improvement and other frauds.

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**Jennifer A. Lundeed, Democrat**

Training and Experience: BA, Texas, 1971. JD, Texas 1981. I have 20 years experience in criminal law. I am compassionate, rational and slow to anger. I will look at the big picture in making sure that justice is firm, fair, and serves the long-term interests of our community.

1. This office has a responsibility to protect the public from fraud whether by individuals, business or in cases involving public agencies. The DA has to enforce the law in a dignified manner. The DA must never serve the baser instincts of humanity such as envy, jealousy, or revenge.

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## **CANDIDATES FOR COUNTY TREASURER**

**Question:**

**1. What do you hope to accomplish if elected to this office?**

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**Dean Caffee, Republican**

Training and Experience: BA in Accounting, Texas 1983. I have worked as a Certified Public Account in private practice for the past 18 years.

1. I hope to establish a transparent, smoothly run office. I will efficiently manage the staff of this office and ensure that the county's assets are handled properly and the county's budget is distributed as ordered.

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**Gordon Kallas, Democrat**

Training and Experience: I am a Certified Public Account, and I hold certification as an elections administrator. I earned a BA in Accounting from the University of Oklahoma in 1979, and I have worked as a consultant for the local Area Development Partnership.

1. If elected, I hope to bring efficient management and vigor to make sure our county's monies are handled properly. With my experience, I will run a transparent and smooth county treasury office.

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## **CANDIDATES FOR SHERIFF**

**Questions:**

- 1. What is the impact of Homeland Security requirements on the Sheriff's Office?**
  - 2. What would you do to reduce juvenile crime in this County?**
  - 3. What would you do to improve relations between the Sheriff's office and the community?**
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**Stanley Saari, Green Party**

Background: Education: BA in Social Work; Corrections Certificate; FBI, Secret Service Protection, and UT West Point Academies; Certified Public Manager; Police Senior Management Institute; 3809 hours CE; Experience: Manage \$11 million budget and 211 employees at Austin Police Department; attained rank of Commander; 15 of 25 years in management; commanded Southwest & Southeast regions, SWAT Team, Investigations; managed Gang Suppression Unit, Homicide, Child Abuse, Sex Crimes, Robbery. Organized training conferences on gangs, criminal investigations and financial crimes.

1. Increased training and equipment for deputies who respond to WMD calls. Added security on high-risk terrorist targets. Increased calls for service on suspicious person' substance calls. Establishing an Intelligence Unit that provides potential threats. Screening information before public release to thwart false alarms. Educate the public on threats and providing instruction on how they can safeguard themselves against varied threats.

2. Work with private and public entities to expand programs such as Big Brothers/Big Sisters, mentoring, sports, scouting, and career development. Extra curricular activities keep at-risk kids and latch-key kids occupied and out of trouble. Expand the Juvenile First Offender Program to include other delinquent conduct cases. Use Juvenile Boot Camp for recidivists focusing on community service work. I would request additional bed space at Texas Youth Commission for serious habitual offenders.

3. Lead by example. Protecting and serving the community is a high calling and responsibility. Sheriff's deputies would interact with the community accordingly. Also, we would be more responsive to the community's needs. WE would determine what and where the needs are by reviewing citizen responses, internal affairs cases, crime statistics and data on hotspots of crime. We would also empanel a group of community representatives and sheriff's personnel to pinpoint additional issues and solutions.

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**Jason Valle, Libertarian**

Background: Education: BA in Criminal Justice, Southwest Texas State University, 1985 Graduate of Governor's Executive Development Program, University of Texas LBJ School of Public Affairs; Experience: Chief of Law Enforcement for Texas Alcohol Beverage Commission 1997-2007; 300 employees, 55 offices, budget of \$15 million; National trainer for Department of Justice; Sheriff's Office (1988-1997) Corrections Officer, Mounted Patrol, DARE Officer, Deputy Sheriff Texas Department of Corrections (1988) Corrections Officer

1. Protecting our community and safeguarding the peace and welfare of all our citizens is a critical role of this office. We will do everything that we can to insure that our residents are informed, educated and prepared to respond to acts of bioterrorism and other threats. We will work tirelessly to partner with other local, regional and statewide groups to address preparedness, response and recovery efforts.

2. I believe that juvenile crime is something that we as a community must address. The sheriff's office, as an authority figure, must work to build a relationship with our youth. However, I believe everyone should be held accountable, without being condescending. When it comes to reducing

juvenile crime, an ounce of prevention truly is worth a pound of cure. It is a countywide issue and will require countywide coordination and response.

3. The sheriff's office must begin to build relationships with the people whom we serve. Community policing refers to much more than the assignment of an officer to a certain community. We must knock down the walls of separation and build relationships on trust and respect with accountability and responsibility as our commitment to all we serve.

## **CANDIDATES FOR COUNTY TAX ASSESSOR**

### **Questions:**

- 1. What are the two biggest challenges facing the Tax Assessor-Collector office and how would you address them?**
- 2. How can this office increase the number of registered voters in this County?**

### **Howard Grady, Independent**

Background: Education: B.A. degree, major-Economics, Texas Lutheran University; M.B.A. degree, Texas State University; Maintains certification as a Certified Internal Auditor; Experience: Deputy Clerk, Guadalupe County Clerk's Office; Caseworker/Eligibility specialist, Texas Department of Human Services; Assistant State Auditor, Texas State Auditor's Office; Field Monitor/Auditor, Contract Monitoring Department, Texas Workforce Commission; Self-employed auditor

1. The primary duty of the County Tax Collector is presenting accurate tax statements that are stated according to the properly assessed value of the property and the legal requirements. The County Tax Collector must ensure that voter rolls are accurate to ensure that everyone that is eligible to vote gets one voter's registration record. The County Tax Collector must confirm that all property statements and voting records are correct prior to mail-outs and issuance.

2. The office can send voter registration information in the mail-outs and the staff can routinely ask visitors to the tax offices if they are registered and would like to register. The County Tax Office can place voter registration materials at other county offices and various public places.

### **Randy H. Clemons, Constitution Party**

Background: Education: B.A. degree in English, M.A. in Communications, Registered Texas Assessor-Collector (RTA). Certified by Texas Board of Tax Professional Examiners; Experience: Seventeen years' successful experience managing Tax Office operations, including property tax collections, current and delinquent; vehicle registration and titles; voter registration. Thirty-two years public service experience in federal, state, and local government.

1. a. Provide citizens with consistently superior service, (1) by decreasing their wait-time; (2) making services available at more convenient locations; (3) offering technological solutions to service delivery. Currently implementing all of these. B. reduce operating costs in the tax office (1) by using technology to our best advantage, (2) multi-tasking existing staff to reduce the need for more employees, (3) by creating and maintaining public/private partnerships for efficient, cost-effective service delivery.

2. By utilizing more than 2,500 Volunteer Deputy Registrars to register new voters. By focusing on voter registration year round, not just before major elections. By educating the public about voting, and using electronic media to help disseminate information. By raising awareness among younger voters. Travis County has 558,000 registered voters, which represents 90% of the population.

### **CANDIDATES FOR JUSTICE OF THE PEACE**

**Question:**

**1. In light of the recent US Supreme Court opinion recognizing the free speech rights of judicial candidates, what public policy issues, if any, will you raise in your judicial race?**

**Deborah Kamps**

Training and Experience: I have worked for the Administrative Hearings Office for 10 years. My dedication, work ethic, and commitment to excellence in this office have qualified me for this position.

1. If elected, I will work closely with local schools in developing a pathway for truancy. This pathway will entail counseling and community service involvement. The old saying that "it takes a community to raise a child" can still be utilized today. This will help keep our community and our children successful.

**Clyde Gayton Jr.**

Training and Experience: BA, Texas 1987. I have worked as a clerk for the Administrative Hearings Office for the past 7 years. I have a wealth of knowledge regarding the intricacies of this office, and my dedication qualifies me for this office.

1. I plan to work closely with the community and other courts to help provide troubled youth a second chance in life. I would like to help establish extensive counseling services for youth entangled in drugs, and help them get back on a path to a successful life.

### **CANDIDATES FOR COUNTY JUDGE**

**Questions:**

- 1. What would you do to ensure that indigent civil and criminal defendants have competent representation?**
- 2. What can be done to alleviate the problem of overcrowded dockets in the courts?**
- 3. Should judges recuse themselves from cases involving those who have contributed to their campaigns?**

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**Dan Atchley**

Background: Education: I graduated from the University of Texas and the University of Houston Law School, where I was on the staff of the Houston Law Review. Experience: I have been licensed for 27 years, and am board-certified in administrative law. I have served as Judge of the 353rd District Court since 1995, and was a trial attorney for 14 years prior to my election. I have experience in the range of cases heard by this court.

1. The district judges have adopted a plan for representation of indigents in the criminal and juvenile system to insure that constitutional rights are protected. Appointed attorneys are required to complete continuing education and skilled attorneys are matched to the severity of the offense charged. The performance of the attorneys and aspects of the program are routinely evaluated. The plan contemplates that counsel appointed will meet with clients within 24 hours of incarceration.
2. Despite our explosive population growth, we have not had a new civil court since 1983, and the legislature approved one court last session. The county commissioners have supported hiring associate judges, who provide assistance with our family and juvenile dockets. We have one judge who hears many discovery matters to insure speed and consistency in those matters. Our central docket and ADR are major factors in helping us to reach cases timely for trial.
3. No. State and federal law are unanimous that campaign contributions alone do not require recusal. Lawyers on both sides of the docket contribute and are interested in fair judges. The state supreme court has long recognized the criticisms lodged at judicial campaign financing and suggested on several occasions that the legislature make changes to the system of judicial selection and campaign financing, but the legislature has not seen fit to adopt those recommendations.

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**Lewis Shine**

Background: Education: UT Austin, BA, School of Social and behavioral Sciences, 1977 TSU, Thurgood Marshall School of Law, 1983; Experience: 12 Years 10 Months Judicial Experience, Associate District Court Judge, Third Administrative Judicial Region (central Texas). Presided over 100,000 family law cases including contempt of court/jail cases. 5 years 6 months Attorney, Private Practice with criminal defense emphasis. 2 years Hearings Examiner, Parole Revocation, Texas Youth Commission.

1. Evaluate defense Attorneys according to the Fair Defense Act. Should an Attorney not meet the set standard, a specific plan for continuing legal education can be required before placing the Attorney on the appointment for indigent defendants list. Formal complaints to the State Bar of Texas Grievance Process may be necessary.
  2. Judges can require Defense Attorneys to appear in Court and set expectations that Defense Attorneys obtain discovery about the case prior to their client's day in court. The Court can set several of the Defense Attorney's clients' cases on a specific day. In civil cases, the Court can require Attorneys to talk on the telephone or by personal meeting prior to setting the case for trial.
  3. Judge's rules for recusal are currently in place and the State Commission on Judicial Conduct is active in determining any violations in this area. I am in favor of the rules for recusal. Currently Judges seek lawyers' campaign contributions by necessity and any financial relief that would change this action would be welcomed by any judge.
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## PROPOSITION 1

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**The constitutional amendment asks voters to let state government to keep a projected \$3.7 billion – money expected to be collected over the next ten years above revenue-growth limits.**

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### EXPLANATION

This amendment would allow Harris County and the City of Houston to keep all city and county tax revenues. Estimated to be around \$3.7 billion, this money will be spent on: public safety, public works, parks and recreation, healthcare, libraries and other services. The current Texas Constitution actually doesn't allow for this much money to be retained for government spending. This proposition is asking for the voters to allow an amount of money above the limitation to be retained by the government and spent on the above areas. The section of the Texas Constitution that limits the amount allowed to be retained is called the Taxpayer's Bill of Rights (TABOR).

### ARGUMENTS FOR

- The additionally allowed spending would improve safety of roads and schools, and would provide additional healthcare for Texas families.
- The added spending would be accomplished "without raising taxes" because it does not increase tax rates or impose new taxes.

### ARGUMENTS AGAINST

- This would be a massive tax increase because Texans would forgo billions of dollars in TABOR refunds if the measure passes.
  - This ballot measure would set a new, higher, threshold for calculating government functions, contracting with private companies to perform some state services and cutting out some services and programs.
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## PROPOSITION 2

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### The charter amendment extending Charter authority of the City Council.

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#### EXPLANATION

This charter would allow for six revisions. It would extend the existing Charter authority of the City Council to include certain types of intergovernmental agreements and revenue contracts. It would allow the City Council to waive, by ordinance, its Charter authority to review and approve certain categories of contracts and leases. It would allow the City Council to modify its regular meeting schedule, which is currently mandated by the charter to be at least one meeting per week in each of the fifty-two weeks of the year. It would provide for the use of resolution rather than an ordinance when the City Council is acting in a non-legislative capacity, and allow for the adoption of simplified resolution procedures. It would remove from the Charter detail on the formation and management of assessment districts. And finally, it would allow the Council to excuse an absent council member for reasons other than sickness.

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#### ARGUMENT FOR

- The major goal of this charter amendment is to remove unnecessary detail and build more flexibility into the Charter.

#### ARGUMENT AGAINST

- This amendment could lead to abuse of this new authority to excuse people for events other than sickness. (For example, it could lead to people getting more days off work they should.)

**PROPOSITION 3**

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**The constitutional amendment revising owner's rights to recover damages.**

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**EXPLANATION**

This is an initiated amendment to Article XVIII of the Texas Constitution that will add a new section concerning recovery of damages relating to construction of real property improvements. It will also prohibit laws that limit or impair a property owner's right to recover damages caused by a failure to construct an improvement in a good and workmanlike manner. There are three major provisions that will take effect if this amendment passes. It will prohibit limits on a property owner's right to recover damages caused by poor construction. It will permit exceptions when laws limit punitive damages; and affords government immunity. And it states that lawsuits must be filed within 2 years of observing the damage or by 6 years from the construction date.

**ARGUMENT FOR**

•Under current legislation, owners of non-residential property cannot recover losses from construction not done in a "good and workmanlike manner." The passage of this initiative would allow recovery of such damages.

**ARGUMENTS AGAINST**

•Contractors may be unable to obtain insurance and might, therefore, be put out of business. In addition, parties remotely responsible, i.e. a lumber store providing materials, might be liable for "collection of damages" if the responsible party is unable to pay.  
•This type of detail does not belong in the Constitution.

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## PROPOSITION 4

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**An initiated amendment to Article 2 of Title 40 of the Texas Revised Statutes requiring providers of retail electric service serving more than 40,000 customers to obtain at least 10 percent of their electricity from renewable energy sources including solar, wind, geothermal, biomass, small hydroelectric, and hydrogen fuel cells by 2021.**

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### EXPLANATION

If this proposed amendment is passed, several revisions will take effect. This amendment will specify that electric providers serving over 40,000 customers are considered a "qualified retail utility" and are subject to the rules of this proposal. It will require qualified retail utilities to gradually increase the amount of retail electric sales derived from renewable energy sources from 3 percent in 2011 to 10 percent by 2021. It will require that at least 4 percent of retail electric sales from renewable sources shall be derived from solar energy by 2018. It will provide financial incentives for certain utilities and customers to invest in renewable energy. It will allow customers of a qualifying utility, municipally-owned utility or cooperative electric association to vote to be exempted from or to adopt the standards of this proposal. It will limit the monthly rate impact to residential customers, due to the increased reliance on renewable energy, to 50 cents. And finally, it will allow qualifying utilities to retain current commissions and to earn profits from investments in renewable energy technologies.

### ARGUMENT FOR

- The initiative will have little impact on consumer energy rates in the short term. Over the long term, it will save utility customers million of dollars. While traditional fossil fuel prices continue to rise, the price of renewable sources will decrease as technology improves.
- The customer rebate for solar consumers is an economic incentive to offset the initial investment. With the rebate, the cost of solar power to the utility is comparable in price to the cost of a new coal generation plant.

### ARGUMENT AGAINST

- Wind farms take a heavy toll on bats and birds, with hundreds of protected species among the thousands of birds killed each year.
  - The customer rebate for solar energy use would force customers not utilizing the rebate to subsidize those who do. If wind energy is cost-competitive with conventional energy sources, we don't need a law or a voter referendum to force utilities to purchase it.
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**PROPOSITION 5**

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**Amendment 30 allows eligible voters to register to vote and cast a ballot on election day in any election beginning on January 1, 2011.**

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**EXPLANTION**

If this measure passes, it would enable voters to register on the day of election. They must appear in person at the polling location with a valid photo ID in order to join the rolls. Present Texas law requires voters to register at least 30 days before election day. Additional law enforcement would be implemented to protect against election fraud.

**ARGUMENT FOR**

- The potential number of voters is increased by allowing people to register to vote on Election Day. Attention to political issues grows as the election draws close—often after the voter-registration deadline has passed.

**ARGUMENT AGAINST**

- Voter registration on Election Day may provide opportunities for election fraud. The current waiting period is an effective safeguard against multiple voting.

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**PROPOSITION 6**

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**The Harris County Charter concerning powers of the City Council to be amended in regard to the sale of city-owned property.**

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**EXPLANATION**

If this proposed measure passes, there will be two effects. The first is that the Charter will now require that the City Councils approve the sale of personal property that is valued at no less than \$500,000. That is, if anyone wants to sell their personal property and that property is valued at over \$500,000, you are required to seek City Council's approval. The Charter will also require the language to be clarified in regards to City Council's approval of any sale of real property.

**ARGUMENT FOR**

- The buyer of the property in question has a right for his purchase to be approved by the City Council. A lot of money is changing hands and an approval from a governmental body is smart.

**ARGUMENT AGAINST**

- It is unnecessary for the City Council to be involved in this sort of issue. These are private dealings among individuals; it does not require government interference.

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